



SALMON FISHERIES IN  
THE YUKON AREA, ALASKA 1990

A Report to the Alaska Board of Fisheries

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## 1.0 INTRODUCTION

The Yukon area includes all waters of the Yukon River drainage in Alaska and coastal waters from Canal Point Light, near Cape Stephens, to the Naskonat Peninsula. For management purposes, the area is divided into six districts and 10 subdistricts (Figure 1). Commercial and subsistence fishing occurs along the entire 1,200 mile length of the Yukon River in Alaska, and in the lower 220 miles of the Tanana River. The Lower Yukon Area (Districts 1, 2, and 3) includes the coastal waters of the delta and that portion of the drainage from the mouth to Old Paradise Village (river mile 301). The Upper Yukon Area (Districts 4, 5, and 6) is that portion of the drainage upstream of Old Paradise Village to the US/Canada border, including the Tanana River drainage. Commercial and subsistence fisheries also occur in Canada, with fishery management activities conducted by the Canadian Department of Fisheries and Oceans (DFO).

Five species of Pacific salmon occur in the Yukon River, with chum salmon being the most abundant. The chum salmon return is made up of an early (summer chum) run and a later (fall chum) run. Pink salmon are only abundant in even numbered years. Exploitation of pink salmon in both commercial and subsistence fisheries is very low due to their advanced stage of maturity and the presence of other more desirable species. Sockeye salmon are rare in the drainage. Salmon run timing into the Yukon River is quite variable. Chinook and summer chum salmon generally begin entering the river during late May or early June. The chinook salmon migration has usually passed through the lower river by the first week of July, while summer chum salmon are usually present in the lower river in significant numbers until mid-July. Fall chum salmon generally begin entry into the river by the middle of July, and are present into September. Coho salmon generally begin entering the river during the first week of August, and entry continues into September.

The objective of the Department's research and management programs is to manage the various salmon runs for optimum sustained yield. Management of the Yukon River commercial salmon fishery must be conservative because of the difficulty in determining run size, harvesting of mixed stocks, increased effort and efficiency of the commercial fleet, allocation concerns, and the need to provide for escapements and subsistence requirements. Since most of the commercial fisheries have only developed or expanded in recent years, there is a lack of adequate escapement and return data on which to fully evaluate the effects of increased commercial harvests. Because the Yukon River commercial fisheries harvest mixed stocks, some tributary populations may be under or overharvested in relation to their actual abundance.

Numerous research projects are underway, and additional studies are planned should additional funding become available, to obtain the biological information necessary for more precise management of the salmon runs. Current projects operated by the Alaska Department of Fish and Game (ADF&G), United States Fish and Wildlife Service (USFWS), or the Canadian DFO include: (1) chinook and chum salmon stock identification studies using scale pattern analysis and electrophoretic techniques, (2) side-scanning sonar, tower, fishway (Whitehorse,

Canada), or weir enumeration to obtain accurate daily and seasonal escapement estimates in important tributaries (Anvik, Chandalar, Fishing Branch and Sheenjek Rivers), (3) main river sonar operation (near Pilot Station) to obtain estimates of total Yukon River salmon abundance, (4) chinook and fall chum salmon mark and recapture programs (Yukon Territory, Salcha and Chena Rivers) and aerial surveys (all species) to estimate spawning escapements, (5) test fisheries in the delta area, near Ruby, and within the Tanana River which provide in-season run timing and relative abundance information, and (6) a new main river sonar project in the Tanana River near Manley.

## 2.0 COMMERCIAL FISHERY - ALASKA

Commercial chinook salmon fishing in the Yukon River dates back to 1918, but the multi-species salmon fishery did not become fully developed until the mid-1970's. During the 1970's, fishing time was fairly liberal with relatively low effort levels. In recent years, commercial fishing time has been greatly reduced.

There are two fishing seasons along the Yukon River. The early or summer season targets chinook and summer chum salmon. The late or fall season targets fall chum and coho salmon.

Important regulations for management include: guideline harvest ranges and emergency order authority to establish weekly fishing periods and gill net mesh size specifications. The commercial fishing season is opened by emergency order in each district. The lower Yukon commercial fishery is opened (generally 5-15 June) after it has been determined (by monitoring test fishing and subsistence catches) that a sustained migration of chinook salmon is in progress and that the early portion of the run has passed through the lower river.

A guideline harvest range of 60,000 - 120,000 chinook salmon has been established for Districts 1 and 2 combined, and a guideline harvest range of 1,800 - 2,200 chinook salmon has been established for District 3. Individual chinook salmon guideline harvest ranges are in effect for each Upper Yukon Area district, with a combined harvest range of 5,550 - 6,950 fish. Harvests near the mid-point of the guideline harvest ranges should be expected if the run is of average magnitude.

A river wide guideline harvest range of 400,000 - 1,200,000 summer chum salmon was established by the Board of Fisheries in February 1990. This overall guideline was based on the previous 15 year average harvests, and was further allocated by the Board of Fisheries actions by district and subdistrict. Management of the summer chum salmon fishery in the Lower Yukon Area is greatly dependent on action taken for chinook salmon since both species exhibit similar run timing. Prior to the 1985 season, it was only after most of the chinook salmon harvest goal had been achieved that mesh size restrictions were implemented to direct the harvest toward summer chum salmon. Since 1985, during years of high summer chum salmon abundance and early run timing, restricted mesh size periods have been implemented to harvest summer chum salmon prior or between chinook salmon directed fishing periods.

In District 4, summer chum salmon roe remains the primary product. Relatively poor flesh quality and high costs of transportation have combined to minimize the export of summer chum salmon from this district. However, these chum salmon produce a very high quality caviar. The largest harvest in this district occurs in Subdistrict 4-A. The guideline harvest range for this subdistrict is 113,000 - 338,000 summer chum salmon, or the equivalent roe poundage of 61,000 - 183,000 pounds of roe. No more than 183,000 pounds of summer chum roe may be sold annually; however, if the roe cap is reached, only the sale of fish in-the-round will be allowed. In an effort to improve harvest estimates, all salmon caught by CFEC permit holders during commercial periods in Subdistrict 4-A must be reported on fish tickets.

Fall chum salmon harvest levels are governed by guideline harvest ranges in the Lower Yukon Area (60,000 to 220,000 fish), and by combined fall chum and coho salmon guideline harvest ranges in the Upper Yukon Area (12,750 to 100,500 fish). These guideline harvest ranges were increased by the Board of Fisheries in February 1990 from the previous levels in effect since 1986. No coho salmon guideline harvest range has been established in the Lower Yukon Area. Coho salmon harvests are dependent on management actions taken for fall chum salmon. In each district, fishing frequency and duration is dependent on the Department's perception of the strength of the fall chum salmon return.

The Board of Fisheries adopted a salmon management plan for the Tanana River (District 6) in May 1988. Some changes were made to this plan prior to the 1990 season. The subdistrict 6-A commercial fishing schedule was reduced to no more than one 24-hour period per week during the fall fishing season. This change was made to help increase the fall chum spawning escapement to the Toklat River. Management of this district is based on existing guideline harvest ranges; however, the ranges may be exceeded if it can be determined that doing so will not jeopardize escapement requirements.

Legal commercial fishing gear consists of set and drift gill nets in the Lower Yukon Area, and fish wheels and set gill nets in the Upper Yukon Area. Open skiffs powered by outboard motors are used to operate the fishing gear and to deliver fish to tenders or buying stations. Approximately 830 limited entry permit holders (680 in the three lower districts) participate in the fishery.

Preliminary commercial harvest estimates total 581,189 salmon and 125,796 pounds of unprocessed salmon roe for the Alaskan portion of the Yukon River drainage in 1990. The harvest was composed of 96,194 chinook, 310,843 summer chum, 130,981 fall chum, and 43,171 coho salmon sold in the round (Table 1). Additionally, roe sales by species totaled 1,731 pounds for chinook, 109,376 pounds for summer chum, 10,801 pounds for fall chum, and 3,888 pounds for coho salmon. With regards to fish sold in the round, the chinook salmon catch was 18% below the 1985-89 average; summer chum, 59% below average; fall chum, 23% below average; and coho salmon, 26% below average (Table 2). Roe sales were 54% below the 1985-89 average for summer chum salmon, and 2.6 times greater than the 1985-89 average for fall chum salmon. Note that the five year average for fall chum salmon includes 1987, when the commercial fishery was closed. Roe sales data were not previously available by species for chinook and coho salmon, therefore harvest levels for 1990 cannot be compared to historical information.

Yukon River fishermen in Alaska received an estimated \$6.5 million for their 1990 catch, approximately 27% below the recent 5-year average. Ten buyer-processors operated in the Lower Yukon Area, and 13 buyer-processors operated in the Upper Yukon Area of Alaska.

Lower Yukon fishermen received an average landed price per pound of \$2.84 for chinook, \$0.24 for summer chum, \$0.45 for fall chum, and \$0.66 for coho salmon. Upper Yukon commercial fishermen received an estimated per-pound average price of \$0.66 for chinook, \$0.15 for summer chum, \$4.42 for summer chum roe, \$0.26 for fall chum, \$3.64 for fall chum roe, and \$0.28 for coho salmon.

## 2.1 Chinook Salmon

Chinook salmon migratory timing into the lower river in 1990 appeared to be later than average. The Lower Yukon Area was generally free of ice by 28 May. The first chinook salmon was reported to have been captured 29 May in Sheldons Point by a subsistence fisherman. The first chinook salmon was caught in Department test fishing nets on 31 May. Based on commercial and test net catches, the chinook salmon migration occurred primarily through south and middle mouths. Test fishing catches of chinook salmon increased somewhat slowly during the early portion of June compared to other years with early ice breakup. Approximately 50% of the 1990 chinook salmon return had entered the lower river by 18 June according to lower river test fishing data. The estimated sonar passage of chinook salmon at Pilot Station was the largest since the project was initiated; however, species apportionment was calculated differently compared to other years. Further analysis is necessary to compare the 1990 sonar counts with prior years. The chinook salmon return was unusual in regard to the large abundance of "jacks" and the earlier entry pattern which they exhibited. Normally, smaller chinook salmon have later run timing in comparison to older, larger chinook salmon. The average weight of chinook salmon in the lower river commercial catch was 19.6 pounds, one of the lowest on record, indicating a high percentage of age 4 and 5 males. The average weight of chinook salmon harvested during unrestricted mesh size fishing periods and restricted mesh size fishing periods was 21.1 and 13.8 pounds, respectively.

The 1990 commercial salmon fishing season was opened by emergency order after approximately seven days of increasing subsistence and test net catches in the lower Yukon River. The chinook salmon directed fishery was opened on a staggered basis: 14 June in District 1, 18 June in District 2, and 24 June in District 3. All subsequent fishing periods were established by emergency order. The first commercial fishing period in Districts 1 and 2 was 9 hours in duration because of uncertainty about chinook salmon run timing. Subsistence reports from 9 June through 12 June indicated a large buildup of chinook salmon along the coast; however, test fishing catches remained relatively low. It appeared that chinook salmon would enter the river in a large compressed pulse.

The first 1990 commercial fishing periods coincided with the first large pulse of chinook salmon to enter the river. Because of the large chinook salmon harvest taken from the first pulse, and due to the anticipated large return of summer chum salmon, the second period in Districts 1 and 2 was restricted to six-inch maximum mesh size. The third period in Districts 1 and 2 were unrestricted mesh size openings. The cumulative chinook salmon harvest for Districts 1 and

2 following the second District 1 unrestricted mesh size period was 60,000 fish, at which time the management plan called for switching to restricted mesh size gill nets. Thus, fishing time was reduced to six hours during the second unrestricted mesh size fishing period in District 2. There was no commercial fishing from 23 June through 27 June in District 1, and from 25 June through 28 June in District 2 due to the unexpectedly low abundance of summer chum salmon. As it became apparent that the summer chum return was either very late or much weaker than anticipated, fishermen were allowed to utilize unrestricted mesh size gill nets during the last two periods in Districts 1 and 2. This strategy was used to allow fishermen to target surplus chinook salmon and lessen the harvest of summer chums.

The total 1990 District 1 and 2 chinook salmon harvest during the summer season was 84,239 fish, 6% below the mid-point of the guideline harvest range, and 22% below the 1985-1989 average harvest. An additional 135 chinook salmon were captured during the fall season. A total of 66,092 chinook salmon were harvested during unrestricted mesh size fishing periods, and 18,147 chinook salmon were harvested during restricted mesh size fishing periods.

In District 3, two unrestricted mesh size fishing periods (one 18-hour and one 9-hour) were allowed in 1990. The initial delay in opening District 3 allowed the first segment of the chinook salmon return to pass through the district prior to the commercial fishery. A total of 2,341 chinook salmon were harvested in District 3, which was 17% above the mid-point of the guideline harvest range, and 31% above the recent five year average.

In District 4, the chinook salmon harvest is largely incidental to the directed summer chum salmon fishery. The summer chum harvest was allowed to reach the lower end of the guideline harvest ranges for this district. The majority of the chinook salmon catch occurred in Subdistricts 4-B and 4-C. The harvest of 3,536 chinook was 20% above the 2,850 fish upper guideline harvest range.

In District 5, chinook salmon is the primary species of commercial value during the early season due to the low availability and poor flesh quality of chum salmon. Commercial fishing periods were scheduled when the bulk of the run was in the district in order to reduce the impact on individual stocks. Three fishing periods (two 48-hour and one 24-hour) occurred in Subdistricts 5-A, 5-B, and 5-C in 1990 for a total harvest of 2,810 chinook salmon, which was within the upper end of the guideline harvest range of 2,250 to 2,850 fish. Two fishing periods (one 48-hour and one 24-hour) occurred in Subdistrict 5-D for a harvest of 543 chinook salmon, which was just over the upper end of the guideline of 500 fish.

Historically, the chinook salmon harvest in District 6 has been largely incidental to the directed summer chum salmon fishery due to the low harvest guideline for chinook salmon (600 to 800 fish). Since 1988, the opening of the commercial fishing season has been delayed to allow increased escapement from the early portion of the return to the Chena and Salcha Rivers. The Board of Fisheries has directed that the Tanana River may be managed as a terminal commercial fishery if escapements are insured. The first 42-hour fishing period in 1990 occurred on 13 July, with a record 1,678 chinook harvested. The second period was delayed until 23 July due to escapement concerns for the Chena River

stock. Total District 6 commercial harvest was 2,590 chinook salmon which was harvested in five 42-hour periods.

## 2.2 Summer Chum Salmon

The first summer chum salmon was caught in Department test fishing nets on 1 June. Similar to chinook salmon, the majority of summer chum salmon entered through south and middle mouths. Comparative test net indices indicated the 1990 summer chum salmon return was below average in abundance. Approximately 50% of the summer chum salmon return had entered the lower river by 25 June according to test fishing CPUE data. The sonar project at Pilot Station estimated summer chum passage to be about 937,000 fish, which was above the poor 1987 return but well below the passage estimates of greater than 1.6 million fish in 1986, 1988, and 1989. Preliminary age composition information from Districts 1 and 2 indicated that the commercial catch was composed primarily of age 5 fish. This information suggests that the age 4 component of the return from the 1986 parent year was much lower than expected. The average weight of summer chum salmon in the lower river commercial catch was 7.3 pounds.

A restricted mesh size fishing period directed toward summer chum salmon was implemented in Districts 1 and 2 after the first unrestricted mesh size fishing period in each district. These fishing periods of 12 hours duration were implemented in response to early indications of a large abundance of summer chum salmon. A total of 148,768 summer chums were harvested in Districts 1 and 2 during these restricted mesh size fishing periods. After a short closure due to decreased passage of summer chum salmon, one six-hour restricted mesh size fishing period was allowed in District 2 on 29 June after test fishing data indicated an increase in abundance. However, this increase in abundance was short-lived and no more restricted mesh size fishing periods were allowed. A total of 99,588 summer chum salmon were harvested during unrestricted mesh size fishing periods, and 181,830 summer chum salmon were harvested in a total of three restricted mesh size fishing periods in Districts 1 and 2 combined. This was the least amount of fishing time with six-inch maximum mesh size gill nets since 1973. The total District 1 and 2 commercial summer chum salmon harvest was 281,418 fish, which was 60% below the recent 5 year average and the lowest catch since 1972.

There were no restricted mesh size fishing periods in District 3 since the chinook salmon harvest exceeded the upper end of the guideline harvest range after two unrestricted mesh size fishing periods. The District 3 summer chum salmon harvest was 643 fish, which was well below the recent 5 year average of 5,456 summer chums.

In District 4, the season opened on 24 June, 1990 with a 24-hour fishing period followed by two standard 48-hour fishing periods. After these three periods, the season harvest goal was lowered to the low end of the harvest guideline range due to inseason assessment of a below average return. Subdistrict 4-A had one additional 24-hour fishing period, and was then closed with a summer season harvest of 11,177 fish and 95,541 pounds of roe. Subdistricts 4-B and 4-C continued fishing for three additional 48-hour periods, for a total of six fishing periods, and closed after a harvest of 1,187 summer chum and 10,182 pounds of roe.



In District 5, summer chum salmon are caught incidentally to the chinook salmon fishery. A total of 11 summer chum salmon and 594 pounds of roe were sold.

In District 6, there were five 42-hour commercial fishing periods during the summer season. A total of 16,407 summer chum salmon and 3,059 pounds of roe were sold.

### 2.3 Fall Chum and Coho Salmon

In 1990, fall chum salmon migratory timing into the lower river initially appeared to be early, with significant numbers of fish passing prior to 24 July. However, according to test fishing and sonar data, very low passage rates occurred from 24 July through 3 August. It was then apparent that run timing was later than normal. After 3 August, three pulses of fall chum entered the river during 4 August, 9-10 August, and 18-19 August. Coho salmon migratory timing appeared to be later than normal as well. Consistent daily test net catches of coho salmon did not begin until 9 August, with no significant entry occurring until 17 August.

The 1990 fall season commercial salmon fishery was opened by emergency order on 23 July in District 1, 26 July in District 2, and 29 July in District 3. A fishing schedule of 12 hours duration in the coastal "Set Net Only Area" where tides affect fishing opportunity, and of six hours duration in the remainder of District 1 and in Districts 2 and 3 was established. The weather was calm during late July and early August, and catches were very low. Typically, fall chum salmon enter the river in relatively short pulses during windy weather. A total harvest of approximately 50,000 fall chums had been taken as of 8 August, after five fishing periods each, in Districts 1 and 2, and four periods in District 3. Historical test fishing and sonar data indicated that usually by 10 August, 50% of the run has passed. In response to what appeared to be a below average fall chum salmon return, the lower river districts were closed to commercial fishing until further notice, in order to allow increased fish passage for spawning and upriver subsistence requirements.

Sonar counts at Pilot Station for 10-16 August, 1990 were adjusted on 17 August to account for targets identified in mid-river transect conducted beyond the horizontal counting range. Apparently, very low water levels caused a change in the migration pattern which had not been seen in prior years. Since the return was still judged to be late and below average, it was decided to allow only one further commercial period in Districts 1, 2, and 3 to allow the harvest to approach the lower end of the guideline harvest range. In addition, the coho salmon return appeared to be increasing as indicated by lower river test fishing catches.

The commercial fishing season closed by emergency order on 21 August in Districts 1, 2, and 3. A total of 68,225 fall chum and 30,707 coho salmon were harvested. This was the second consecutive year in which District 2 had a larger fall chum salmon harvest than District 1, although the harvest has been nearly equal in some other years. The preliminary cumulative sonar fish passage estimates at Pilot Station through termination of the project on 4 September were approximately 482,000 fall chum and 230,000 coho salmon.

Based on test net, sonar, and commercial and subsistence fishery performance, it was determined that the fall chum salmon run size was sufficient to allow upriver districts to harvest near the lower end of their guideline harvest ranges. Subdistricts 4-B and 4-C were opened to commercial fishing for two 48-hour periods beginning on 22 August. Participation by fishermen and processors was at a low level due to the late opening announcement and low harvest goal of 5,000 fish. Sales totaled 4,989 fall chum salmon and 2,351 pounds of roe. No coho salmon were reported sold.

The Subdistrict 5-A, 5-B, and 5-C fall season was announced for two 24-hour periods per week beginning on 28 August, 1990. However, the low end of the guideline harvest range of 4,000 fish was exceeded with the sale of 5,169 fall chum salmon and 945 pounds of roe after only one fishing period. No coho salmon were reported sold in District 5. Subdistrict 5-D was also open for only one fishing period due to the low end of the guideline harvest range being exceeded in one 48-hour period. Sales from the 7-9 September fishing period were 2,609 fall chum salmon and 113 pounds of roe. No coho salmon were reported sold in District 5.

Based on sustained high catches in test fish wheels and in the subsistence fishery, the fall chum salmon run in the Tanana River (District 6) was assessed to be above average in strength. Three fishing periods were allowed in each subdistrict in District 6 in 1990. Due to Board of Fisheries concerns for the Toklat River fall chum salmon stock, fishing periods in Subdistrict 6-A were 24-hours in duration, while they were 42-hours in Subdistricts 6-B and 6-C. Sales for District 6 totaled 49,989 fall chum salmon, 7,392 pounds of fall chum roe, 12,464 coho salmon, and 3,888 pounds of coho roe.

### 3.0 COMMERCIAL FISHERY - CANADA

Management plans for the Canadian chinook and chum salmon fisheries on the Yukon River in 1990 were formulated to reflect the understandings reached in the latest round of U.S. - Canada negotiations which were held in Juneau during the week of 23 April, 1990. The tentatively agreed to guideline harvest ranges for Canadian fisheries are 16,800 to 19,800 chinook, and 23,600 to 32,600 fall chum salmon. The parties also reached tentative agreement on a minimum spawning escapement objective of 18,000 chinook salmon for the Canadian mainstem stock. A total of 30 commercial licenses were issued in 1990, similar to 1989. Most of the commercial harvest was taken in gill nets set in eddies.

#### 3.1 Chinook Salmon

The total Canadian commercial chinook catch was 11,291 fish. The commercial catch fell well within the commercial guideline harvest range of 9,400 to 12,400 chinook. For comparison, the recent six-year average (1984-89) commercial catch was 11,188 chinook. The lowest catch in this period occurred in 1989 with a catch of 9,789 chinook, whereas a record catch of 13,217 occurred in 1988.

### 3.2 Fall Chum Salmon

The Canadian commercial chum harvest was within the guideline harvest range of 20,900 to 29,900 fish. The pre-season target of 25,400 chum was exceeded due to the indications of a strong return in both the commercial and test fish wheel catches. The 1990 chum catch was about 9% above the recent cycle (1986-89) average of 24,967 chum which ranged from 17,549 in 1989 to a record of 40,591 in 1987. A maximum of 15 fishermen were active in any one week during the chum salmon season.

## 4.0 SUBSISTENCE AND PERSONAL USE FISHERIES

### 4.1 Subsistence Fisheries

#### 4.1.1 Alaska

Subsistence salmon fishing in the Yukon River drainage has a long history. Excluding the greater Fairbanks area, some 53 communities with a population of approximately 14,000 people of primarily Yupik Eskimo, and Athabaskan Indian descent are located within the area. The Fairbanks - North Star Borough population is estimated at 77,700, for a total Yukon River drainage population of approximately 92,000 people. The department estimates approximately 1,600 households harvest salmon for subsistence use in the drainage.

Subsistence salmon fishing occurs from late May through October, although this varies throughout the drainage. Fishing activities are based either from a fish camp or the home village; however, the degree to which one or the other is more prevalent has varied from community to community. Some people from communities not situated along the Yukon River, such as Birch Creek, Venetie, and some residents of Chalkyitsik, operate fish camps along it. Subsistence salmon fishing is often undertaken by extended family groups representing two or more households in a community. These groups, as well as members of individual households, cooperate to harvest, cut, dry, smoke, and store salmon for subsistence use. Many people who fish for subsistence also operate as commercial fishermen.

Subsistence has been designated by the legislature as the highest priority among beneficial uses of fish and game resources. In major commercial fishing areas, it is necessary to place some restrictions on the subsistence fishery in order to enforce commercial fishing regulations. During the fishing season, however, substantially more fishing time is allowed for subsistence than for commercial purposes. In general, since the early 1960s, subsistence fishing has been managed and regulated to coincide with commercial salmon fishing periods when the commercial fishing season is open. During closures of the commercial fishing season, subsistence fishing is allowed from five to seven days per week in Districts 1-5, and for two 42-hour periods per week in District 6. Subsistence fishing permits are required in three areas within the upper Yukon drainage: (1) the entire Tanana River drainage; (2) the Yukon River between Hess Creek and Dall River; and (3) the Yukon River between the upstream mouth of Twenty-two Mile Slough and the U.S./Canada border.

Gill nets, beach seines, and fish wheels are legal gear for subsistence fishing in the Yukon area. The use of drift gill nets for subsistence fishing has been limited, by regulation, to the Lower Yukon Area, and to a section of Subdistrict 4-A. In the Lower Yukon Area, set and drift gill nets are the predominant gear types. In Upper Yukon Area, primarily fish wheels and set nets are used for subsistence fishing. The Board of Fisheries closed the Toklat and Kantishna Rivers to subsistence fishing for fall chums beginning in the 1990 season because of poor spawning escapements.

Subsistence salmon harvest data has been collected by the Division of Commercial Fisheries through the use of personal interviews, permit reports, and/or catch calendars since 1961, excluding 1988. Through this period, survey methods and harvest reporting have varied. Due to funding limitations, the Department was unable to send survey crews to all villages in 1983 and 1984 to interview fishermen; however, in 1985, personal interviews were conducted in most villages. During 1986 and 1987, increased funding provided by U.S./Canada negotiation support allowed more comprehensive subsistence fishery harvest surveys. In 1988, the Subsistence Division modified the subsistence harvest survey design and collected the subsistence harvest data. This method has been used since 1988. The modified method consists of a comprehensive list of all households in the Yukon River drainage that is stratified by community. Households are classified into two strata: as usually fishing for subsistence, or not usually fishing for subsistence. This stratified survey design allows a more accurate estimate of the total subsistence harvest. Canadian Indian Food and domestic fisheries harvest information is collected by the Canadian Department of Fisheries and Oceans (DFO).

In the District 4 commercial fishery, there is only a very limited market for summer chum salmon flesh, while the roe has a significant commercial market. As a result, commercial fishermen extract and sell roe from their catch and retain the carcasses for subsistence use. During the 1980-85 period, it is likely that many fishermen reported this portion of their commercial harvest as subsistence fish. In fact, it is probable that the unmarketable commercial product may have simply replaced a large portion of the subsistence harvest in this area. Since 1986, Subsistence surveys for the Yukon River drainage were conducted in such a manner as to estimate the number of summer chum salmon taken by commercially related activities, and those taken by traditional subsistence fishing activities.

Criteria for subsistence and personal use fisheries in Alaska were in a state of transition in 1990 due to recent court decisions. In May, subsistence "catch calendars" were mailed to fishing households in all non-permitted area Yukon River drainage communities in Alaska for use during the fishing season. Direct interviews were conducted with fishermen immediately following the season. Subsistence fishermen in portions of District 5 and all of District 6 were required to obtain subsistence fishing permits and record harvest data. Fishermen not contacted by other means are now being contacted by mail. Analysis of 1990

subsistence harvest data was not complete for inclusion in this report. Preliminary estimates of the 1989 subsistence and personal use harvest in the Alaska portion of the Yukon River drainage totaled 49,574 chinook, 164,495 summer chum, 217,405 fall chum, and 39,972 coho salmon (Table 3 and 4). These estimates do not include commercially caught summer chum salmon retained for subsistence purposes in District 4.

#### 4.1.2 Canada

Data has not yet been compiled for the Canadian 1990 Indian food fishery (IFF) catches. It is anticipated that the total upper Yukon IFF chinook salmon catch will be similar to the 1985-89 cycle average of approximately 7,000 fish. The chum salmon catch is expected to be above average (1985-89 average is 3,408 fall chum salmon). The IFF catch of chinook salmon at Old Crow, on the Porcupine River, is expected to be minimal due to the evacuation of the town as a result of a forest fire during the time of the chinook salmon migration. Coho salmon catches in Canada are generally limited to the Porcupine drainage where they are taken in the Old Crow fishery. The recent average for this fishery is approximately 500 coho salmon.

Catch data for the Canadian 1990 domestic fishery are also incomplete. The preliminary 1990 total chinook salmon domestic catch is reported to be 233 fish. Chum salmon domestic catch for 1990 is still unknown at this time. The 1985-89 average for the domestic fishery is 216 fall chum salmon.

#### 4.2 Personal Use Fisheries

A regulation was in effect from 1988 up until July 1, 1990 that prohibited non-rural residents from participation in subsistence salmon fishing. In those years, non-rural residents harvested salmon under personal use fishing regulations. Personal use harvest information is not yet available for 1990. The preliminary 1989 estimate of personal use harvest was 2,844 chinook, 2,087 summer chum, 7,294 fall chum, and 966 coho salmon (Table 5).

### 5.0 STATUS OF SPAWNING STOCKS

#### 5.1 Chinook Salmon

##### 5.1.1 Alaska

Chinook salmon spawning populations are widely distributed throughout the Yukon River drainage. Scale patterns analysis (SPA) studies have been used to estimate geographic region of origin of chinook salmon fishery harvests since 1982. These studies have shown that Canadian chinook stocks are very important to Alaskan fisheries. Results of SPA studies and tagging studies conducted in Canada

indicate that Canadian origin chinook salmon stocks have undergone unacceptably high harvest rates in recent years. The harvest rates were estimated to range from 61% to 91%. Based on information from other fisheries, harvest rates in excess of 67% will likely result in a serious decline in chinook salmon abundance.

Overall, chinook salmon spawning escapements were considered good throughout the Yukon River drainage in 1990. Aerial surveys of the Anvik River, and east and west forks of the Andreafsky River in the lower portion of the Yukon River drainage, documented 1,595, 2,503, and 1,545 chinook salmon, respectively, within established index areas under fair to good survey conditions (Table 6). All of these estimates were above the established escapement objectives of 500, 1,600, and 1,000 chinook for each of these streams, respectively. Aerial surveys of the Chena and Salcha Rivers in the middle portion of the Yukon River drainage provided estimates of 1,436 and 3,744 chinook salmon, respectively. The Salcha River escapement estimate was conducted under good survey conditions and met the escapement objective. The Chena River escapement objective was not met; however, the survey was conducted under fair to poor survey conditions. Since 1986, ADF&G has conducted research to estimate the proportion of chinook salmon present in a stream that are observed by aerial survey. Aerial surveys have accounted for 35% to 71% of the population as estimated by tagging in the Salcha River since 1987, and 20% to 59% in the Chena River since 1986. For 1990, the tagging population estimates were 10,728 chinook salmon for the Salcha River, and 5,603 for the Chena River. It is hoped that this research effort will enable staff to expand historical aerial survey indices for these two important spawning areas into total population estimates.

#### 5.1.2 Canada

In 1990, aerial surveys of chinook index streams in Canada were carried out only by ADF&G due to Canadian funding cuts. The ADF&G survey results are directly comparable with past Canadian survey counts (Table 7).

Chinook salmon escapements in most of the major Canadian spawning index areas showed great improvement over 1989, with increases in survey counts noted in all systems except for the Tincup, Ross and Little Salmon Rivers. Index areas such as the Big Salmon, Nisutlin, and Wolf Rivers showed strong returns, well above the most recent five year average. The Whitehorse Fishway count of 1,407 chinook salmon represents an increase of 200% over the most recent five year average of 469 fish. It should be noted that this return included 292 (21%) coded-wire tagged hatchery returns. Of these 292 fish, 75 were adult females, 76 were adult males, and 141 were jacks or precocious males. This represents a minimum estimate of hatchery returns since not all hatchery-released chinook salmon were tagged.

The preliminary tagging estimate of total spawning escapement for the Canadian portion of the Yukon River drainage (excluding the Porcupine drainage) was 38,678 chinook salmon, the highest on record. This estimate represents an increase of approximately 118% over the most recent five year average of 17,735 and is within the interim spawning escapement objective range of 33,000 to 43,000 chinook salmon.

## 5.2 Summer Chum Salmon

Very few summer chum salmon aerial survey spawning escapement estimates were obtained due to poor weather and smoke haze caused by numerous tundra and forest fires (Table 8). A preliminary sonar estimate of 403,627 summer chum salmon to the Anvik River was approximately 17% below the escapement objective of 487,000 fish, and the lowest count since 1983. Aerial surveys of the Andreafsky River system indicated a fair escapement of summer chum salmon. Surveys of other index areas in the Yukon River drainage indicated relatively low numbers of spawners, although most surveys were conducted after the peak of spawning.

## 5.3 Fall Chum Salmon

### 5.3.1 Alaska

Fall chum salmon spawning occurs in the upper portion of the drainage (Tanana and Porcupine River drainage and in Canada) in spring fed areas. During the 1980s, the abundance of fall chum salmon declined due to poor escapements from 1982 through 1984. Additional regulatory restrictions adopted in 1983 and 1986 resulted in generally improved escapements in the late 1980s. However, the Toklat and Canadian Yukon River mainstem spawning stocks have shown less improvement than other areas.

Lower Yukon River inseason assessment of the 1990 fall chum salmon return was below average in strength and late in run timing. A preliminary sonar estimate of 485,083 fall chum salmon passing Pilot Station was made for the period July 19 to September 4, the lowest since initiation of the project in 1986. The preliminary sonar-estimated escapement to the Sheenjek River was approximately 65,700 chum salmon (Table 9). Although this is a minimal estimate since fish were known present prior to sonar operations, as well as being passed at a rate of nearly 1,000 per day upon project termination, the escapement objective (62,000) was achieved.

In 1990, comprehensive escapement enumeration of fall chum salmon in the Chandalar River was undertaken for the fifth consecutive year by USFWS. Although no interim escapement objective exists for this stream, the sonar-estimated escapement of 78,631 fish was the highest observed since hydroacoustic operations were initiated in 1986.

Escapement to the Toklat River (Tanana River drainage) was estimated at approximately 33,700 chum salmon, the highest observed since 1979 and the first year the interim escapement objective (33,000) has been achieved during the past decade. By comparison, the Delta River escapement estimate of approximately 9,000 spawners fell 2,000 fish shy of the objective for that river. Although no escapement objectives exist for other fall chum salmon spawning areas in the Tanana River, observations of prominent spawning areas in the Big Delta region (e.g., Bluff Cabin and Clearwater Lake Outlet Sloughs) indicated less than expected numbers of spawners based upon inseason fishery performance.

### 5.3.2 Canada

The preliminary population estimate made by DFO of fall chum salmon entering the Canadian portion of the upper Yukon River was approximately 81,700 fish. Subtracting the preliminary estimated Canadian commercial and non-commercial harvest (31,800 excluding Old Crow) from this population estimate results in a total escapement estimate to Yukon Territory (excluding the Porcupine River drainage) of approximately 49,900 spawners. This estimate is nearly 18% below the most recent 5-year average of 60,700. Results of the population estimate were corroborated by chum salmon aerial surveys conducted on the mainstem Yukon, Kluane, Koidern, Teslin, and Fishing Branch Rivers. With exception of the Teslin River survey, all results indicated below average escapements of fall chum salmon were realized.

Although achieved in the Sheenjek River, it is not believed that the Fishing Branch River interim escapement objective was reached in 1990 based upon limited observations. Due to budget constraints, DFO did not operate a weir on this river in 1990, but did conduct a single aerial survey on October 26 to estimate the number of spawners present. Although only 7,541 chum salmon were enumerated, a population estimate of approximately 27,000 chum salmon was made through the date of the survey based upon an historic average aerial-to-weir expansion of 28%. Actual population of spawners in 1990 was reported by DFO to have likely been between 30,000 - 40,000 in view of the late timing of the survey with respect to spawning.

### 5.4 Coho Salmon

Coho salmon escapement assessment is very limited in the Yukon River drainage due to funding limitations and difficult survey conditions during the fall (Table 10). Most information on spawning escapements that has been collected is from the Tanana River drainage, although coho salmon passage at Pilot Station in the mainstem Yukon River has been partially monitored since the mid-1980s. The 1990 estimated passage through September 4 was 231,714 coho salmon.

Spawning escapements in the Tanana River drainage, as reflected by observations made of selected index areas in the lower Nenana (Lost Slough) and upper Tanana Rivers (Delta Clearwater River and Clearwater Lake outlet stream), were judged to be at least average in magnitude in 1990.

## 6.0 PROJECT SUMMARIES

### 6.1 Alaska

#### 6.1.1 Salmon Stock Identification

Analysis of chinook salmon scale patterns, age compositions, and geographic distribution of catches and escapements are used by ADF&G on an annual basis to estimate geographic region of origin of the fishery harvests. Data have not yet been analyzed for 1990. Prior year scale patterns analysis (SPA) studies



provided the following estimates of region of origin for the total Yukon River drainage chinook salmon harvest (commercial and non-commercial harvests in Alaska and Canada combined):

Year	Lower Run Origin	Middle Run Origin	Upper Run Origin
1982	15%	23%	62%
1983	12%	36%	51%
1984	29%	36%	35%
1985	31%	19%	50%
1986	27%	6%	68%
1987	17%	18%	65%
1988	27%	12%	61%
1989	25%	18%	57%

Note that the lower and middle regions of origin are within Alaska, and the upper region of origin is within the Canadian portion of the drainage.

The USFWS continued research into the feasibility of using protein electrophoresis methodology to identify chinook and chum salmon stocks in the mixed stock fisheries in 1990. This work was initiated in 1987, and status reports have been provided to the delegations periodically as warranted by new information.

#### 6.1.2 Yukon River Sonar

As in previous years, hydroacoustic counters and test gill nets were operated by ADF&G to estimate salmon passage by species on the mainstem Yukon River, near Pilot Station, from 5 June through 4 September 1990. Preliminary estimates of salmon passage for 1990 were approximately 129,000 chinook, 937,000 summer chum, 206,000 pink, 482,000 fall chum, and 230,000 coho salmon. Annual estimates of salmon passage for prior years are currently being reanalyzed due to recent improvements in data processing and species apportionment methodology. While the historical estimates may change as a result of the analysis currently in progress, the existing estimates are presented here for reference as follows:

Year	Dates of Operation	Chinook	Summer Chum	Fall Chum	Coho	Pink <sup>a</sup>
1986	6/09-9/12	86,000	1,926,000	527,000	200,000	1,056,000
1987	6/09-9/06	110,000	656,000	587,000	241,000	
1988	6/02-9/14	81,000	1,876,000	507,000	264,000	536,000
1989	6/04-9/11	76,000	1,628,000	683,000	181,000	
1990	6/05-9/04	129,000 <sup>b</sup>	937,000	482,000	230,000	206,000

<sup>a</sup> Pink salmon counts were so low in 1987 and 1989 that they were included in the non-salmonid species apportionment.

<sup>b</sup> Method of apportioning chinook salmon in 1990 differed from prior years and may not be directly comparable. Analysis of historical data is still in progress.

### 6.1.3 Tanana River Sonar

A new main river sonar project was operated by ADF&G in a feasibility mode on the Tanana River near Manley Hot Springs in July 1990. This project uses technology similar to that employed at the Yukon River sonar project. A field camp was established, and hydroacoustic target data were collected. Drift gill nets were used to sample fish for species and size information. This project will require several more seasons before it is fully operational.

## 6.2 Canada

### 6.2.1 Yukon River Tagging Program

DFO has conducted a tagging program on salmon stocks in the Canadian section of the drainage since 1982 (excluding 1984). The objectives of the study have been to estimate the total return of chinook and fall chum salmon to Canada (excluding the Porcupine drainage which is partially enumerated by the Fishing Branch weir or by aerial surveys), and to obtain estimates of total escapement, harvest rates, migration rates, and run timing. Spaghetti tags are applied to live-captured salmon in the test fish wheels, and subsequent recoveries are made by the different user groups fishing upstream. Population estimates are derived from those tags recovered in the commercial fishery below the Stewart River. Analysis of the 1990 data is incomplete; however, the preliminary chinook salmon border population estimate is 57,502 fish (95% C.I. = 50,484 to 65,423). Of this number, approximately 38,678 chinook are estimated to have reached the various spawning grounds.

## 7.0 OUTLOOK FOR 1991

### 7.1 Chinook Salmon

The majority of chinook salmon returning to the Yukon River are 6-year-old fish; however, 5- and 7-year-old fish make a significant contribution to the run. In general, spawning ground escapements in 1985, the primary brood year (age 6 in 1991), were judged to be below average in magnitude in Canada, and average in Alaska. Survival and production of the 1985 brood year is apparently average based on the contribution of 5-year-old fish to the 1990 commercial catch. It is expected that the 1991 return of 5-year-olds (1986 brood year) will be average based on escapements which ranged from below average in Canada to above average in Alaska during 1986, and above average proportion of 4-year-old fish in the 1990 return. The return of 7-year-old fish (1984 year class) is expected to be average as the return of this year's class in 1989 as 5-year-olds, and in 1990 as 6-year-olds was average. Overall, the 1991 chinook salmon return is anticipated to be below average to average in strength. The commercial harvest in Alaska is expected to total 83,000 to 100,000 chinook salmon (77,000-93,000 fish in the Lower Yukon Area, 6,000-7,000 fish in the Upper Yukon Area).

### 7.2 Summer Chum Salmon

Summer chum salmon return primarily as 4-year-old fish, although substantial 5-year-old returns often result from brood years with high survival rates. The return of 4-year-old fish in 1991 will be dependent on production from the 1987 brood year and survival of the resulting cohort. Based on available catch and escapement data, the magnitude of the 1987 summer chum salmon run was judged to be below average in abundance. In addition, the return of 5-year-old fish in 1991 is expected to be below average in strength based upon the below average return of 4-year-old fish in 1990. The Anvik River summer chum salmon stock is expected to be the primary contributor to the 1991 return. In summary, based on evaluation of brood year run size data and assuming average survival, it is expected that the Yukon River summer chum salmon return in 1991 will be below average in magnitude. The commercial harvest is expected to be near the lower end of the Guideline Harvest Range (400,000-600,000 fish and approximately 100,000 pounds of roe).

### 7.3 Fall Chum Salmon

Similar to summer chum salmon, fall chum salmon return primarily as 4-year-old fish. Escapements in 1987 (the brood year which will produce 4-year-old fish in 1991) were generally above average. The contribution of age 3 fall chum salmon in the 1990 return was below average which, when combined with available escapement data, suggests average return of 4-year-olds in 1991. The return of 5-year-old fish (1986 brood year) is expected to be below average, overall, based on the poor contribution of age 4 fall chum salmon in the 1990 harvest, and the below average to average escapements in 1986. In summary, based on evaluation of brood year escapements, and assuming average survival rates, the overall fall chum salmon return is expected to be average in 1991. The commercial harvest is anticipated to be near 250,000 fall chum salmon (approximately 150,000 in the Lower Yukon Area, and 100,000 fall chum and coho salmon combined in the Upper Yukon Area).

A more comprehensive analysis of fall chum salmon information, including estimates of total return sizes, maturity schedule and return per spawner data, resulted in a return projection of 855,000 fish for 1991. The current drainage-wide escapement objective using this method is 316,000 fall chum salmon. The recent five year average (1985-1989) drainage-wide subsistence harvest was approximately 174,000 fish. Thus, a total of 365,000 fall chum may be available for commercial fisheries (including Canadian harvests). However, because of the mixed stock nature of the fisheries, the commercial harvest will probably not reach this level in order to achieve escapement objectives.

#### 7.4 Coho Salmon

Coho salmon return primarily as 4-year-old fish. Comprehensive escapement information for coho salmon is lacking, but escapement surveys in the Tanana River system indicated an above average run strength in 1987. The commercial harvest is expected to approach 90,000 fish, and will be dependent on the timing and frequency of fishing periods allowed for fall chum salmon.

## **FIGURES AND TABLES**

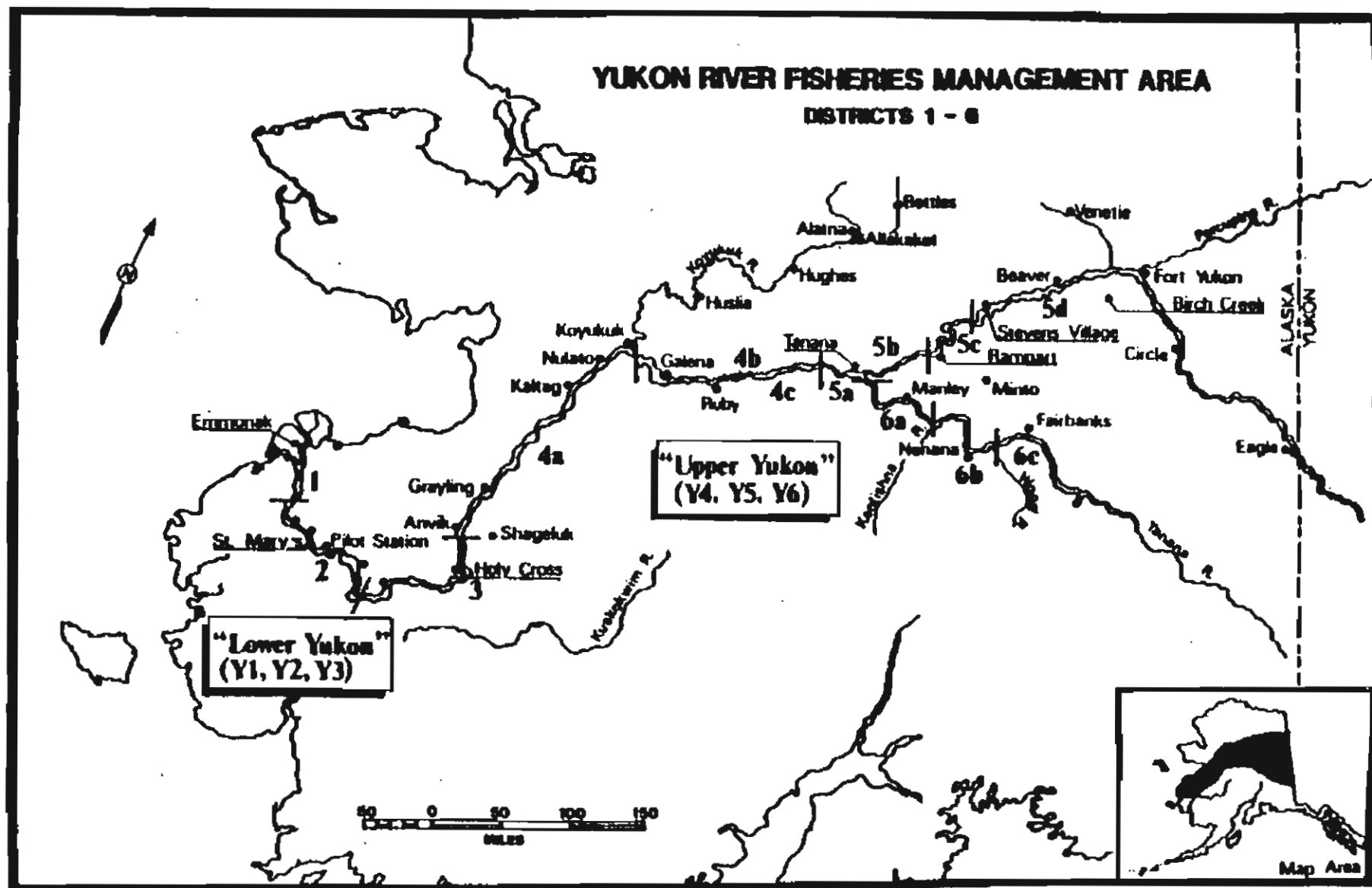


Figure 1. Map of the Alaskan portion of the Yukon River drainage, showing fishing districts boundaries, 1991.

Table 1. Preliminary Alaskan commercial sales of Yukon River salmon in 1990. a,b

District Subdist.	No. of Fishermen c	Chinook		Summer Chum		Fall Chum		Coho		Total Salmon	
		Numbers	Roe	Numbers	Roe	Numbers	Roe	Numbers	Roe	Numbers	Roe
1	459	51,161	0	148,911	0	27,337	0	13,354	0	240,763	0
2	258	33,213	0	132,507	0	37,173	0	16,435	0	219,328	0
Subtotal	677	84,374	0	281,418	0	64,510	0	29,789	0	460,091	0
3	22	2,341	0	643	0	3,715	0	918	0	7,617	0
Total Lower Yukon	679	86,715	0	282,061	0	68,225	0	30,707	0	467,708	0
4-A	65	52	8	11,177	95,541	0	0	0	0	11,229	95,549
4-B,C	31	3,484	0	1,187	10,182	4,989	2,351	0	0	9,660	12,533
Subtotal District	92	3,536	8	12,364	105,723	4,989	2,351	0	0	20,889	108,082
5-A,B,C	25	2,810	47	5	575	5,169	945	0	0	7,984	1,567
5-D	6	543	0	6	19	2,609	113	0	0	3,158	132
Subtotal District	30	3,353	47	11	594	7,778	1,058	0	0	11,142	1,699
6	31	2,590	1,676	16,407	3,059	49,989	7,392	12,464	3,888	81,450	16,015
Total Upper Yukon	153	9,479	1,731	28,782	109,376	62,756	10,801	12,464	3,888	113,481	125,796
Total Yukon Area	832	96,194	1,731	310,843	109,376	130,981	10,801	43,171	3,888	581,189	125,796

a Harvest reported in numbers of fish sold in the round and pounds of salmon roe.

b Includes ADF&G test fish sales.

c Number of unique permits fished by district, subdistrict or area. Totals by area may not add up due to transfers between districts.

Table 2. Alaskan commercial sales of Yukon River salmon, 1961-1990. a,b

Year	Chinook		Summer Chum		Fall Chum		Coho		Total	
	Numbers	Roe	Numbers	Roe c	Numbers	Roe d	Numbers	Roe	Numbers	Roe
1961	119,664	-	-	-	42,461	-	2,855	-	164,980	-
1962	96,734	-	-	-	53,116	-	22,926	-	170,776	-
1963	117,048	-	-	-	0	-	5,572	-	122,620	-
1964	93,587	-	-	-	8,347	-	2,446	-	104,380	-
1965	118,098	-	-	-	23,317	-	350	-	141,765	-
1966	93,315	-	-	-	71,045	-	19,254	-	183,614	-
1967	129,656	-	10,935	-	38,274	-	11,047	-	189,912	-
1968	106,526	-	14,470	-	52,925	-	13,303	-	187,224	-
1969	91,027	-	61,966	-	131,310	-	15,093	-	299,396	-
1970	79,145	-	137,006	-	209,595	-	13,188	-	438,934	-
1971	110,507	-	100,090	-	189,594	-	12,203	-	412,394	-
1972	92,840	-	135,668	-	152,176	-	22,233	-	402,917	-
1973	75,353	-	285,509	-	232,090	-	36,641	-	629,593	-
1974	98,089	-	589,892	-	289,776	-	16,777	-	994,534	-
1975	63,838	-	710,295	-	275,009	-	2,546	-	1,051,688	-
1976	87,776	-	600,894	-	156,390	-	5,184	-	850,244	-
1977	96,757	-	534,875	-	257,986	-	38,863	-	928,481	-
1978	99,168	-	1,052,226	25,761	236,383	10,628	26,152	-	1,413,929	36,389
1979	127,673	-	779,316	40,217	359,946	18,466	17,165	-	1,284,100	58,683
1980	153,985	-	928,609	139,106	293,430	5,020	8,745	-	1,384,769	144,126
1981	158,018	-	1,006,938	189,068	466,451	11,285	23,680	-	1,655,087	200,353
1982	123,644	-	461,403	152,819	224,187	805	37,176	-	846,410	153,624
1983	147,910	-	744,879	149,999	302,598	5,064	13,320	-	1,208,707	155,063
1984	119,904	-	588,597	167,224	208,232	2,328	81,940	-	998,673	169,552
1985	146,188	-	516,997	248,625	267,744	2,525	57,672	-	988,601	251,150
1986	99,970	-	721,469	271,691	139,442	577	47,255	-	1,008,136	272,268
1987	134,760	-	442,238	121,968	0	0	0	-	576,998	121,968
1988	101,421	-	1,152,237	256,535	160,963	3,227	99,907	-	1,514,528	259,762
1989	102,280	-	966,614	288,549	286,836	14,749	85,483	-	1,441,213	303,298
1990	96,194	1,731	310,843	109,376	130,981	10,801	43,171	3,888	581,189	125,796
<hr/>										
5 Yr Avg										
1985-89	116,924	-	759,911	237,474	170,997	4,216	58,063	-	1,105,895	241,689
<hr/>										
5 Yr Avg										
1985-89	110,195	-	699,031	0	111,930	0	46,319	-	967,475	0
<hr/>										
5 Yr Avg										
1985-89	6,729	-	60,880	237,474	59,067	4,216	11,744	-	138,420	241,689
<hr/>										

a Catches reported in numbers of fish sold in the round and pounds of unprocessed roe.

b Includes ADF&amp;G test fish sales.

c May include small amounts of chinook salmon roe.

d May include small amounts of coho salmon roe.



Table 3. Preliminary Yukon River drainage subsistence and personal use salmon harvest, 1989. a

Village	Survey Date	Fishing Households <sup>b</sup>	Chinook	Summer Chum	Fall Chum	Coho	Set Nets	Drift Nets	Fish Wheels
Sheldon Pt.	Aug./Sept.	18	165	4,314	586	487	12	2	0
Alakanuk	Aug./Sept.	88	820	12,108	430	334	23	24	0
Emmonak	Aug./Sept.	86	854	19,490	155	678	9	17	0
Kotlik	Sept.	73	1,500	12,284	2,859	2,660	26	15	0
Personal Use	Permits	26/22	338	450	21	70	-	-	0
Y-1 Subtotal		291	3,677	48,646	4,051	4,229	70	58	0
Mt. Village	Sept.	118	2,001	15,869	4,641	2,385	2	34	0
Pitkas Pt.	Sept.	17	592	4,176	275	601	0	5	0
St. Marys	Sept.	52	1,592	8,948	1,695	370	2	20	0
Pilot Station	Sept.	67	1,498	6,783	1,872	379	5	19	0
Marshall	Sept.	41	1,464	3,927	1,532	1,304	2	22	0
Y-2 Subtotal		295	7,147	39,703	10,015	5,039	11	100	0
Russian Mission	Sept.	39	2,367	2,229	308	20	7	7	0
Holy Cross	Sept.	33	2,379	1,753	711	517	8	15	0
Y-3 Subtotal		72	4,746	3,982	1,019	537	15	22	0
Lower Yukon Total c		658	15,570	92,331	15,085	9,805	96	180	0
Anvik	Sept.	18	418	410	168	40	5	0	3
Shageluk d	Sept.	19	32	8,842	4	0	3	0	0
Grayling	Sept.	35	1,082	14,570	830	969	9	1	3
Kaltag	Oct.	33	1,306	632	1,654	792	2	11	9
Nulato	Oct.	45	2,079	200	2,436	276	6	21	8
Koyukuk	Oct.	22	1,003	381	2,460	110	9	2	1
Galena	Oct.	62	1,374	6,216	6,436	415	19	3	6
Ruby	Oct.	33	1,016	1,844	6,599	1,069	8	0	9
Y-4 Subtotal		267	8,310	33,095 e	20,587	3,671	61	38	39
Tanana	Oct.	70	3,008	7,756	40,845	5,518	13	1	17
Rampart	Oct.	14	3,177	28	2,472	87	8	0	3
Fbks. Pers-Use f	Permits	45/42	2,011	316	3,529	88	35		5
Stevens Village i	Nov./Permits	15/10	2,611	2,375	6,633	208	13	0	4
Beaver	Oct.	18	1,694	124	7,242	774	8	0	2
Ft. Yukon f	Nov./Permit	63	4,898	1,760	27,790	406	25	0	17
Circle/Central g	Oct./Permits	17/16	1,785	361	4,478	1	22	0	2
Eagle h i	Nov./Permit	37/35	2,385	547	11,540	0	16	0	2
Birch Creek	Nov.	6	0	0	0	0	0	0	0
Other m	Permits	11/11	200	0	23	0	11	0	0
Y-5 Subtotal		296	21,769	13,267	104,552	7,082	151	1	52
Main Yukon River Totals		1,221	45,649	138,693	140,224	20,558	308	219	91

-Continued-

Table 3. Preliminary Yukon River drainage subsistence and personal use salmon harvest, 1989  
(Continued). a

Village	Survey Date	Fishing Households	Chinook	Summer Chum	Fall Chum	Coho	Set Nets	Drift Nets	Fish Wheels
		b							
Manley i	Nov./Permits	20	652	2,457	15,961	4,826	15	0	7
Minto i	Nov./Permits	22	366	1,452	2,005	1,179	21	0	2
Nenana i	Nov./Permits	34	1,137	3,821	25,217	7,469	18	0	19
Kantishna R.	Permits	5/5	0	0	9,836	1,202	6	0	3
Healy	Permits	5/5	0	0	4,358	2,958	4	0	1
Fairbanks Pers-use	Permits	179/162	495	1,320	1,958	809	180	0	8
Department test fishwheels n			391	115	2,873	584	2 wheels in above		
Other o	Permits	1/1	0	0	39	0	1	0	0
Y-6 Subtotal		266	3,041	9,165	62,247	19,027	245	0	40
Hustla	Oct.	33	177	10,005	1,728	150	17	0	2
Hughes	Oct.	13	181	3,687	260	91	6	0	1
Allakaket/Alatna	Oct.	34	438	2,915	1,969	118	21	0	0
Bettles	Oct.	3	0	0	0	0	-	0	0
Koyukuk R. Subtotal		83	796	16,607	3,957	359	44	0	3
Venetie	Nov.	19	88	30	7,977	2	12	0	0
Chalkyitsik	Oct.	12	0	0	3,000	26	5	0	0
Subtotal Chandalar/Black River		31	88	30	10,977	28	17	0	0
Subtotal Upper Yukon (Alaska)		943	34,004	72,164	202,320	30,167	518	39	134
Yukon River Drainage (Alaska) Total		1,601	49,574	164,495	217,405	39,972	614	219	134
Old Crow j		1		1	2,900	1	1	1	1
Yukon River Mainstem Canada j,k		1	7,500	1	3,000	1	1	1	1
Yukon Territory j Totals		1	7,500	1	5,900	1	1	1	1
Grand Total Yukon River Drainage		1,601	57,074	164,495	223,305	39,972	614	219	134

-Continued-

Table 3. Preliminary Yukon River drainage subsistence and personal use salmon harvest, 1989  
(Continued). a

- a Subsistence data collected by Commercial Fisheries Division.
- b Estimated number of households that fished or permits issued/permits returned.
- c Does not include Hooper Bay and Scammon Bay harvest of 16 chinook, 2,341 summer chum, 156 fall chum, and 213 coho salmon.
- d Shageluk harvest data from households fishing mainstem Yukon River and Innoko River.
- e Does not include fish taken during commercial roe fishery.
- f Data from Fairbanks fishermen who fished between Hess Creek and Dall River.
- g Includes Circle and vicinity, and Central.
- h Includes Eagle and vicinity, and Eagle Village.
- i Calculated by using usually fished subsistence survey and permit information.  
Don't usually fished survey households were not expanded for. Don't usually fished permittees information was added after expansion.
- j Indian Food Fish and Domestic catch data from Department of Fisheries & Oceans, Whitehorse, Yukon Territory (preliminary data).
- k Includes 500 fall chum salmon harvested from the Porcupine River.
- l Data not available.
- m Yukon River permits issued to residents of Dalton/Elliott Hwy, Chicken, and Tok.
- n Subsistence fish given away as part of the Department's test fishwheel program.  
The Manley project gave away 340 chinook, 2,750 fall chum and 460 coho salmon,  
and the Nenana project gave away 51 chinook, 115 summer chum, 123 fall chum, and 124 coho salmon.
- o Tanana River permit issued to resident of Delta/Alaska Hwy.

Table 4. Alaskan subsistence and personal use catch of Yukon River Salmon, 1961-1990. a b

Year	Chinook	Summer Chum	Fall Chum	Coho c	Total
1961	21,488	305,317	101,772	9,192	437,769
1962	11,110	261,856	87,285	9,480	369,731
1963	24,862	297,094	99,031	27,699	448,686
1964	16,231	361,080	120,360	12,187	509,858
1965	16,608	336,848	112,283	11,789	477,528
1966	11,572	154,508	51,503	13,192	230,775
1967	16,448	206,233	68,744	17,164	308,589
1968	12,106	133,880	44,627	11,613	202,226
1969	14,000	156,191	52,063	7,776	230,030
1970	13,874	166,504	55,501	3,966	239,845
1971	25,684	171,487	57,162	16,912	271,245
1972	20,258	108,006	36,002	7,532	171,798
1973	24,317	161,012	53,670	10,236	249,235
1974	19,964	227,811	93,776	11,646	353,197
1975	13,045	211,888	86,591	20,708	332,232
1976	17,806	186,872	72,327	5,241	282,246
1977	17,581	159,502	82,771	16,333	276,187
1978	30,297	197,144	94,867	7,787	330,095
1979	31,005	196,187	233,347	9,794	470,333
1980	42,724	272,398	172,657	20,158	507,937
1981	29,690	208,284	188,525	21,228	447,727
1982	28,158	260,969	132,897	35,894	457,918
1983	49,478	240,386	192,928	23,895	506,687
1984	42,428	230,747	174,823	49,020	497,018
1985	39,771	264,828	206,472	32,264	543,335
1986	45,238	290,825	164,043	34,468	534,574
1987 d	53,124	275,914	361,663	84,894	775,595
1988	46,590	202,137	159,703	69,138	477,568
1989 e	49,574	164,495	217,405	39,972	471,446
1990 f					
Five Year Average					
1985-89	46,859	239,640	221,857	52,147	560,504

a Includes personal use catches beginning in 1987.

b Catches estimated for 1961-1976 since catches of salmon other than chinook salmon were not differentiated by species until 1977

c Minimum estimates for 1961-1978 because surveys were typically conducted before the end of the fishing season.

d Includes estimates of catches from illegal fall fish and roe sales in Districts 5 and 6.

e Preliminary data.

f Subsistence catch data in preparation.

Table 5. Personal use salmon catches taken under authority of a permit, Yukon Management Area, 1989.

Permit Type	ID Number	Permits Issued	Permits Returned	Percent Returned	Reported Harvest				Expanded Harvest <sup>a</sup>			
					Chinook	Summer Chum	Fall Chum	Coho	Chinook	Summer Chum	Fall Chum	Coho
Lower Yukon River	LY-#-89	26	22	85%	286	381	18	59	338	450	21	70
Upper Yukon River Haul Road Bridge Area	PY-#-89	45	42	93%	1,877	295	3,294	82	2,011	316	3,529	88
Tanana River, Subdistrict 6-C	T-#-89	177	160	90%	397	991	1,770	731	439	1,096	1,958	809
Tanana River, Subdistrict 6-A and Subdistrict 6-B	PT-#-89	2	2	100%	56	224	0	0	56	224	0	0
Tanana River, Delta River Carcasses	SC-#-89	12	12	100%	0	0	1,785	0	0	0	1,785	0
PERSONAL USE HARVEST TOTAL:		262	238	91%	2,616	1,891	6,867	872	2,844	2,087	7,294	966

<sup>a</sup> Expanded Harvest = (reported harvest by species/permits returned) x permits issued.

Table 6. Chinook salmon escapement counts for selected U.S. spawning stocks in the Yukon River drainage, 1961-1990.<sup>a</sup>

Year	Andreafsky River		Anvik River <sup>b</sup>		Nulato River	Gisasa River	Chena River		Salcha River	
	East Fork	West Fork	Aerial	Tower			River	Index	River	Index
1961	1,003	-	1,226	-	543 <sup>c</sup>	266 <sup>c</sup>	-	-	2,878	-
1962	675 <sup>a</sup>	762 <sup>a</sup>	-	-	-	-	61 <sup>c,d</sup>	-	937	-
1963	-	-	-	-	-	-	137 <sup>c</sup>	-	-	-
1964	867	703	-	-	-	-	-	-	450	-
1965	-	344 <sup>c</sup>	650 <sup>c</sup>	-	-	-	-	-	408	-
1966	361	303	638	-	-	-	-	-	800	-
1967	-	276 <sup>a</sup>	336 <sup>c</sup>	-	-	-	-	-	-	-
1968	380	363	310 <sup>c</sup>	-	-	-	-	-	739	-
1969	274 <sup>a</sup>	231 <sup>a</sup>	296 <sup>c</sup>	-	-	-	-	-	461 <sup>c</sup>	-
1970	665	374 <sup>a</sup>	368	-	-	-	6 <sup>c</sup>	-	1,882	-
1971	1,904	1,682	-	-	-	-	193 <sup>a,d</sup>	-	158 <sup>c</sup>	-
1972	798	582 <sup>c</sup>	-	1,198	-	-	138 <sup>c,d</sup>	-	1,193	1,034
1973	825	788	-	613	-	-	21 <sup>c</sup>	-	391	-
1974	-	283	-	471 <sup>c</sup>	78 <sup>c</sup>	161	1,016 <sup>d</sup>	959	1,857	1,620
1975	993	301	-	730	204	385	316 <sup>d</sup>	262 <sup>d</sup>	1,055	-
1976	818	643	-	1,153	648	332	531	496	1,641	1,473
1977	2,008	1,499	-	1,371	487 <sup>c</sup>	255	563	-	1,202	1,052
1978	2,487	1,062	-	1,324	920	45 <sup>c</sup>	1,726	-	3,499	3,258
1979	1,180	1,134	-	1,484	1,507	484	1,159 <sup>c</sup>	-	4,789	-
1980	958 <sup>c</sup>	1,500	1,192	-	1,323 <sup>c</sup>	951	2,541	-	6,757	6,126
1981	2,146 <sup>c</sup>	231 <sup>c</sup>	577 <sup>c</sup>	-	791 <sup>a</sup>	-	600 <sup>c</sup>	-	1,237 <sup>c</sup>	1,121 <sup>c</sup>
1982	1,274	851	-	-	-	421	2,073	-	2,534	2,346
1983	-	-	376 <sup>c</sup>	-	1,006	572	2,553	2,336	1,961	1,803
1984	1,573 <sup>c</sup>	1,993	574 <sup>c</sup>	-	-	-	501	494	1,031	906
1985	1,617	2,248	720	-	2,780	735	2,553	2,262	2,035	1,860
1986	1,954	3,158	918	-	2,974	1,346	2,031	1,935	3,368	-
1987	1,608	3,281	879	-	1,638	731	1,312	1,209 <sup>c</sup>	1,898	1,671
1988	1,020	1,448	1,449	-	1,775	797	1,966	1,760	2,761	2,553
1989	1,399	1,089	212 <sup>c</sup>	-	-	-	1,280	1,185	2,333	2,136
1990	2,503	1,545	1,595	-	998	884 <sup>c</sup>	1,436	1,402 <sup>a</sup>	3,744	3,429
E.O. <sup>e</sup>	1,600	1,000	500 <sup>f</sup>	-	1,000	650	-	1,700 <sup>g</sup>	-	2,500 <sup>h</sup>

<sup>a</sup> Data obtained by aerial survey unless otherwise noted. Only peak counts are listed.

<sup>b</sup> From 1961-1970, aerial survey count data are from various segments of the mainstem Anvik River. From 1971-1979, mainstem aerial survey counts below the tower were added to tower counts. From 1980-present, aerial survey counts are from the mainstem Anvik River between the Yellow River and McDonald Creek.

<sup>c</sup> Incomplete and/or poor survey conditions resulting in minimal or inaccurate counts.

<sup>d</sup> Boat Survey.

<sup>e</sup> Interim escapement objective.

<sup>f</sup> Interim escapement objective for the mainstem Anvik River between the Yellow River and McDonald Creek.

<sup>g</sup> Interim escapement objective for the mainstem Chena River between Moose Creek Dam and the Middle Fork River.

<sup>h</sup> Interim escapement objective for the mainstem Salcha River between TAPS crossing and Caribou Creek.

Table 7. Chinook salmon escapement counts for selected Canadian spawning stocks in the Yukon River drainage, 1961-1990.<sup>a</sup>

Year	Tincup Creek	Tatchum River <sup>b</sup>	Little Salmon River	Big Salmon River <sup>d</sup>	Nisutlin River <sup>e</sup>	Wolf River <sup>f</sup>	Whitehorse Fishway <sup>g</sup>	Mainstem Tagging Estimate <sup>h</sup>
1961	-	-	-	-	-	-	1,068	-
1962	-	-	-	-	-	-	1,500	-
1963	-	-	-	-	-	-	483	-
1964	-	-	-	-	-	-	593	-
1965	-	-	-	-	-	-	903	-
1966	-	7 <sup>c</sup>	-	-	-	-	563	-
1967	-	-	-	-	-	-	533	-
1968	-	-	173 <sup>c</sup>	857 <sup>c</sup>	407 <sup>c</sup>	-	414	-
1969	-	-	120	286	103	-	334	-
1970	-	100	-	670	613	71 <sup>c</sup>	625	-
1971	-	130	275	275	650	750	856	-
1972	-	80	126	413	237	13	391	-
1973	100	99	27 <sup>c</sup>	75 <sup>c</sup>	36 <sup>c</sup>	-	224	-
1974	-	192	-	70 <sup>c</sup>	48 <sup>c</sup>	-	273	-
1975	-	175	-	153 <sup>c</sup>	249	40 <sup>c</sup>	313	-
1976	-	52	-	86 <sup>c</sup>	102	-	121	-
1977	-	150	408	316 <sup>c</sup>	77	-	277	-
1978	-	200	330	524	375	-	725	-
1979	-	150	489 <sup>c</sup>	632	713	183 <sup>c</sup>	1,184	-
1980	-	222	286 <sup>c</sup>	1,436	975	377	1,383	-
1981	-	133	670	2,411	1,626	393	1,555	-
1982	-	73	403	758	578	104	473	19,790
1983	100	264	101 <sup>c</sup>	540	701	93	903	28,989
1984	150	161	434	1,044	832	124	1,042	27,616 <sup>i</sup>
1985	210	190	253	801	409	110	508	10,730
1986	228	155	54 <sup>c</sup>	743	459 <sup>c</sup>	109	537	16,413
1987	100	159	468	891	183	35	327	13,210
1988	204	130	368	763	267	66	405	23,118
1989	88	100	862	1,662	693	146	549	25,201
1990	83	643	663	1,806	652	188	1,407	38,678 <sup>j</sup>
E.O. <sup>k</sup>	-	-	-	-	-	-	-	33,000-43,000

a Data obtained by aerial survey unless otherwise noted. Only peak counts are listed.

b All foot surveys except 1978 (boat survey) and 1986 (aerial survey).

c Incomplete and/or poor survey conditions resulting in minimal or inaccurate counts.

d For 1968, 1970, and 1971 counts are from mainstem Big Salmon River. For all other years counts are from the mainstem Big Salmon River between Big Salmon Lake and the vicinity of South Creek.

e One Hundred Mile Creek to Sidney Creek.

f Wolf Lake to Red River.

g Includes 50, 90, and 292 fin-clipped hatchery-origin salmon in 1988, 1989, and 1990, respectively.

h Estimated total spawning escapement excluding Porcupine River (estimated border escapement minus the Canadian catch).

i Estimate derived by dividing the 1984 5-area (Whitehorse Fishway, Big Salmon, Nisutlin, Wolf, Tatchum) by the average proportion of the 5-area index count to the estimated spawning escapements from the DFO tagging study for years 1982, 1983, and 1985-1989.

j Preliminary

k Interim escapement objective.

Table 8. Summer chum salmon escapement counts for selected spawning areas in the Yukon River drainage, 1973-1990.<sup>a</sup>

Andreefsky River										
East Fork			West Fork		Anvik River		Mudato River	Gisasa River	Hogatz River	Chena River
Year	Aerial	Sonar or Tower			Tower & Aerial	Sonar				
1973	10,149 <sup>b</sup>	-	51,833		89,665 <sup>b</sup>	-	-	-	-	-
1974	3,215 <sup>b</sup>	-	33,578		201,277	-	51,160	-	-	3,510
1975	223,485	-	235,954		845,485	-	138,495	-	22,355	7,573
1976	105,347	-	118,420		406,166	-	40,001 <sup>b</sup>	-	20,744	6,474
1977	112,722	-	63,120		262,854	-	69,660	-	10,734	677 <sup>b</sup>
1978	127,050	-	57,321		251,339	-	54,480	9,280 <sup>b</sup>	5,102	1,609
1979	66,471	-	43,391		-	280,537	37,104	10,962	14,221	1,025 <sup>b</sup>
1980	36,823 <sup>b</sup>	-	115,457		-	492,676	14,946 <sup>b</sup>	10,388	19,786	338
1981	81,555	147,312 <sup>c</sup>	-		-	1,479,582	14,348 <sup>b</sup>	-	-	3,500
1982	7,501 <sup>b</sup>	181,352 <sup>c</sup>	7,267 <sup>b</sup>		-	444,581	-	334 <sup>b</sup>	4,984 <sup>b</sup>	1,509
1983	-	110,608 <sup>c</sup>	-		-	362,912	21,012 <sup>b</sup>	2,356 <sup>b</sup>	28,141	1,097
1984	95,200 <sup>b</sup>	70,125 <sup>c</sup>	238,565		-	891,028	-	-	-	1,861
1985	66,146	-	52,750		-	1,080,243	29,838	13,232	22,566	1,005
1986	83,931	167,614 <sup>d</sup>	99,373		-	1,189,602	64,265	12,114	-	1,509
1987	6,687 <sup>b</sup>	45,221 <sup>d</sup>	35,535		-	455,876	11,257	2,123	5,669 <sup>b</sup>	333
1988	43,056	68,937 <sup>d</sup>	45,432		-	1,125,449	42,083	9,284	6,890	432
1989	21,460 <sup>b</sup>	-	-		-	636,906	-	-	-	714 <sup>b</sup>
1990	11,519 <sup>b</sup>	-	20,426 <sup>b</sup>		-	400,000 <sup>e</sup>	4,615 <sup>b</sup>	450 <sup>b</sup>	2,177 <sup>b</sup>	-
E.O. <sup>f</sup>	109,000	-	116,000		-	487,000 <sup>g</sup>	-	-	17,000 <sup>h</sup>	-
										3,500

<sup>a</sup>Data obtained by aerial survey unless otherwise noted. Only peak counts are listed.

<sup>b</sup>Incomplete survey and/or poor survey timing or conditions resulted in minimal or inaccurate count.

<sup>c</sup>Sonar count.

<sup>d</sup>Tower count.

<sup>e</sup>Preliminary

<sup>f</sup>Interim escapement objective.

<sup>g</sup>Optimum escapement objective calculated from escapement-return relationships.

<sup>h</sup>Interim escapement objective includes Clear Creek (8,000) and Caribou Creek (9,000).



Table 9. Fall chin salmon escapement counts for selected spawning areas in the Yukon River drainage, 1974-1990.

Year	Delta River <sup>a</sup>	Toklat River <sup>b</sup>	Chandalar River <sup>c</sup>	Sheenjek River <sup>d</sup>	Fishing Branch River <sup>e</sup>	Canada Mainstem Tagging Estimate <sup>f</sup>
1974	5,915	43,484	-	89,966	32,525 <sup>g</sup>	-
1975	3,734 <sup>h</sup>	90,984	-	173,371	353,282 <sup>g</sup>	-
1976	6,312 <sup>h</sup>	53,882	-	26,354	36,584	-
1977	16,876 <sup>h</sup>	36,462	-	45,544	88,400	-
1978	11,136	37,057	-	32,449	40,800	-
1979	8,355	179,627	-	91,372	119,898	-
1980	5,137	26,373	-	28,933	55,268	-
1981	23,508	15,775	-	74,560 <sup>g</sup>	57,384 <sup>i</sup>	-
1982	4,235	3,601	-	31,421 <sup>g</sup>	15,901	31,958
1983	7,705	20,807	-	49,392 <sup>g</sup>	27,200	90,875
1984	12,411	16,511	-	27,130 <sup>g</sup>	15,150	56,633 <sup>j</sup>
1985	17,276 <sup>h</sup>	22,805	-	152,768 <sup>g</sup>	56,100 <sup>g</sup>	62,010
1986	6,703 <sup>h</sup>	18,903	59,313	83,197 <sup>g</sup>	31,173 <sup>g</sup>	87,990
1987	21,180	22,141	52,416	140,086 <sup>g</sup>	48,956 <sup>g</sup>	80,776
1988	18,024	13,324	33,619	41,073 <sup>g</sup>	23,597 <sup>g</sup>	36,786
1989	21,342 <sup>h</sup>	30,447	69,161	101,748 <sup>g,P</sup>	43,834 <sup>g</sup>	35,750
1990 <sup>k</sup>	8,992 <sup>h</sup>	33,672	78,631	65,721 <sup>g</sup>	27,000 <sup>m</sup>	49,849
E.O. <sup>n</sup>	11,000	33,000	-	62,000	50,000-120,000	-

<sup>a</sup>Total escapement estimates made from migratory time density curve (see Barton 1986), unless otherwise indicated.

<sup>b</sup>Total escapement estimates using Delta River migratory time density curve and percentage of live salmon present by survey date in the upper Toklat River area.

<sup>c</sup>Sonar estimate.

<sup>d</sup>Total escapement estimates using sonar to aerial survey expansion factor of 2.221, unless otherwise indicated.

<sup>e</sup>Total escapement estimates using weir to aerial survey expansion factor of 2.72, unless otherwise indicated.

<sup>f</sup>Estimated total spawning estimates excluding Porcupine-Fishing Branch Rivers (estimated border escapement minus Canadian removal).

<sup>g</sup>Weir estimate.

<sup>h</sup>Population estimate from replicate foot surveys and stream life data.

<sup>i</sup>Initial aerial survey count was doubled before applying the weir/aerial expansion factor of 2.72 since only half of the spawning area was surveyed.

<sup>j</sup>Escapement estimates based on mark-recapture program unavailable. Estimate based on assumed average exploitation rate.

<sup>k</sup>Preliminary

<sup>m</sup>Weir was not operated. Total escapement estimate using weir to aerial survey expansion factor of 3.57. Survey was conducted approximately 2 weeks late. Therefore, a more reasonable escapement estimate would be between 30,000 and 40,000 salmon.

<sup>n</sup>Interim escapement objective.

<sup>P</sup>Includes an estimated 20,000 fish already in the river prior to sonar operations. Sonar count was 81,748 fish.

Table 10. Coho salmon escapement counts for selected spawning areas in the Yukon River drainage, 1972-1990.<sup>a</sup>

Year	Kenai River Drainage				Delta Clearwater River <sup>c,d</sup>	Clearwater Lake and Outlet	Richardson Clearwater River
	Lost Slough	Clear Creek	Wood Creek <sup>b</sup>	17 Mile Slough			
1972	-	-	-	-	632	417	454 <sup>e</sup>
1973	-	-	-	-	3,322	551 <sup>c</sup>	375 <sup>c</sup>
1974	1,388	-	-	27	3,954	560	652 <sup>c</sup>
1975	943	-	-	956	5,100	1,575 <sup>c,d</sup>	4 <sup>e</sup>
1976	118	13	-	281	1,920	1,500 <sup>c,d</sup>	80 <sup>e</sup>
1977	524	-	310 <sup>f</sup>	1,167	4,793	730 <sup>c,d</sup>	327
1978	350	-	300 <sup>f</sup>	466	4,798	570 <sup>c,d</sup>	-
1979	227	-	-	1,987	8,970	1,015 <sup>c,d</sup>	372
1980	499	-	1,603 <sup>f</sup>	592	3,946	1,545 <sup>c,d</sup>	611
1981	274	-	849 <sup>g</sup>	1,005	8,563 <sup>h</sup>	459 <sup>e</sup>	550
1982	-	-	1,436 <sup>g</sup>	-	8,365 <sup>h</sup>	-	-
1983	766	-	1,044 <sup>g</sup>	103	8,019 <sup>h</sup>	253	88
1984	2,677	2,600 <sup>b,d</sup>	8,805 <sup>g</sup>	-	11,061	1,368	428
1985	1,584	-	3,775 <sup>g</sup>	2,081	5,358	750	-
1986	794	603 <sup>b,d</sup>	1,664 <sup>g</sup>	218 <sup>b,d</sup>	10,857	3,577	146 <sup>e</sup>
1987	2,511	-	2,450 <sup>g</sup>	3,802	22,300	4,225 <sup>c,d</sup>	-
1988	348	-	2,046 <sup>g</sup>	-	21,600	825 <sup>c,d</sup>	-
1989	-	-	412 <sup>g</sup>	824 <sup>a</sup>	11,000	1,600 <sup>c,d</sup>	483
1990 <sup>i</sup>	688	-	-	15 <sup>a</sup>	8,325	2,375 <sup>c,d</sup>	-

<sup>a</sup>Only peak counts presented. Survey rating is fair to good, unless otherwise noted.

<sup>b</sup>Surveyed by F.R.E.D.

<sup>c</sup>Surveyed by Sport Fish Division.

<sup>d</sup>Boat survey.

<sup>e</sup>Poor survey.

<sup>f</sup>Foot survey.

<sup>g</sup>Weir count.

<sup>h</sup>Population estimate.

<sup>i</sup>Preliminary.

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP  
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By

Kuskokwim Fishermen's Cooperative

Regional Information Report<sup>1</sup> No. 3B91-01

Alaska Department of Fish and Game  
Division of Commercial Fisheries, AYK Region  
333 Raspberry Road  
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**KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP  
SUBSISTENCE SURVEY FINAL REPORT 1990**

**General Description**

The Alaska Board of Fisheries established a Kuskokwim River Salmon Working Group to provide inseason coordination with the Department of Fish and Game's Commercial Fisheries Division in Bethel. This group is made up of representatives of the various fishing interests on the Kuskokwim. The primary purpose for this group is to provide input during the commercial fishery into the department's salmon management program utilizing data collected inseason on subsistence catches for specified sections on the river; test fishery data; escapement data; prior year data.

The work group established a subsistence salmon survey program to facilitate collection and preparation of inseason subsistence data as a component of the Kuskokwim River Salmon Management Plan. This program provides the working group an up to date status of subsistence harvests from a sample of fishermen from four different locations along the river during the months of June, July, and August. Data collected from this survey is used to evaluate trends in subsistence catches during the commercial salmon fishing season. This assists the work group in determining relative magnitude and timing of salmon runs for purposes of establishing commercial fishing periods.

In order for this project to be implemented successfully the work group required an organization with the resources and familiarity with the subsistence fishery and the people along the Kuskokwim river. This project also had to start right away in June 1990 in order to provide adequate coverage for the entire fishing season. The Kuskokwim Fishermen's Cooperative was selected to perform this task. A Subsistence Survey Coordinator was hired in the latter part of May to identify survey monitors from each reporting sector, establish a radio and telephone communications network, prepare data collection forms and a data management program on computer. In addition a survey data entry clerk was hired in June to assist in entering data and preparing reports. The survey project operated in the Kuskokwim Fishermen's Cooperative offices at 751 6th Avenue in Bethel.

### Survey Locations & Demographics

For the 1990 season the Kuskokwim was divided into four sections beginning from the mouth of the river on up to Chuathbaluk. Survey monitors were selected from the following:

<u>Location #</u>	<u>Village/Fish camp</u>
1	Tuntutuliak;
2	Napakiak;
3	Akiachak;
4	Chuathbaluk.

Chuathbaluk is located in the middle Kuskokwim river area 160 miles above Bethel with a population of 100 or more. Of that, about 5 families are included in the report. Akiachak consists of about 451 and about 24 families' catch were reported. Napakiak is located about 6 and a half miles below Bethel with a population of 320 and 37 families were surveyed. Tuntutuliak has a population of 292. Catches from 19 fishermen from Tuntutuliak were included in the reports.

### Survey Monitoring & Reporting

Monitors would survey each contact in person utilizing forms prepared by the survey coordinator. When weather or other circumstances would not permit in-person surveys to fishcamps, contacts were sometimes made by VHF. Reports did not always include all possible contacts from each location. As it was, reports reflected the number of fishermen who reported catches to the survey monitor. There were certain times, especially during silver season, that monitors surveyed their locations but no one was fishing. This is either due to weather or sufficient catches were already made by the surveyed fishermen.

Monitors from villages selected a mix of subsistence fishermen from the villages and surrounding fish camps. The majority of reports came from fishermen residing in fishcamps. Reports concentrated on main stem catches and not on tributary streams. Reports were prepared by the monitors once a day Monday through Friday. The weekend data was reported on Monday. Monday's data was reported on Tuesday and Tuesday's was reported on Wednesday and so on. If a monitor missed one report he/she was contacted by the coordinator the following day. The day after a commercial opening monitors would not have to report because subsistence fishing was closed during that period. Monitors reported to the coordinator by phone or on VHF radio. On occasion reports were brought in-person to the coordinator.

### Survey Statistical Description

The report provided by the monitors included: the date; fishermen identification number; location; soak time; whether set or drift; mesh size and depth; fathoms of net; and number of fish by species. A fishermen identification number was provided by each monitor to assist in determining consistency of reporting by individual fishermen.

Once collected, the data was then entered into an Apple Macintosh SE computer utilizing a Microsoft Excel program; sorted by date, location, and mesh size ( $\leq 6$  or  $> 6$ ). The Microsoft Excel worksheets included: fishermen id #; date; location #; whether set or drift; soak time; mesh size; mesh depth; fathoms length of net; number of catch and CPUE by species. The CPUE calculation in the worksheets included the following formula:  $(6,000 \times \text{catch}) / (\text{fms net} \times \text{soak time})$ . Soak time was reported in hours or minutes, but was entered on the worksheets in hours (minutes were entered as a decimal of hours). The CPUE calculation converted the hours into minutes for the formula. After the data was sorted by date and location, a summary calculation was made by the computer utilizing a macro application in Excel. This summary calculation included: the number of fishermen reported; date; location #; mesh size; sum of catch by species; calculation of average of CPUE's reported by species. Up to date printed reports included: raw data with summaries per location; a summary report by location and net size; and by-species charts of each location according to net size. Raw data and summaries were printed on regular computer paper utilizing a wide carriage dot matrix printer. Charts were then printed on 8 1/2" X 11" paper utilizing a laser printer. Both Microsoft Excel's charting program and Microsoft Word were utilized to prepare the printed charts. These reports were prepared once a week for each of the Kuskokwim River Salmon Work Group meetings which occurred weekly during the season. Included with this report is a table of summary CPUE's with cumulative calculations; charts for each cumulative calculation by mesh size and location; daily charts of CPUE by mesh size and location. Conversion to IBM applications is possible with the Apple Macintosh. The Microsoft Excel program reads and writes Lotus 123 files, it can also prepare data in ASCII format. A Macintosh communications program is available to transfer files to the department's Compaq computers in Bethel.

### Evaluation of Data Collection and Outline of Problems

We are now reporting from four sights, and feel comfortable with these. As you know we have several more sights when this project began, and the information was just too large to use effectively.

I have some concerns about the fact that it seems rather difficult to get any actual trends in August, as it appears that August is not a time when people are not participating heavily in subsistence. However, I hesitate to make any recommendations concerning this, until I work with the Department of Fish and Game to run some statistical data covering the last 3 years, that will prove this either true, or untrue. I will report to you when that information is completed.

Kuskokwim Fishermen's Cooperative  
Subsistence Survey Report 1990

12/31/90

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I attended the Working Group Meetings and found that they utilize this information at each meeting. This year there were problems with getting trends to show, however I do not feel that this was unique to the Subsistence Survey. It was a difficult year to try to manage as the fish were not following normal patterns of running. There were several reasons for this pointed out by Fish and Game, as well as with other members of the Working Group.

## '90 Payment/Survey

Surveyor/Address	Paydays	5/31/90	6/15/90	6/29/90	7/13/90	7/27/90	8/10/90	8/24/90	8/31/90	TOTALS
Charlie Charlie Gen Del Tunt 99680 256-2327	Days Worked		10	5	8	8	8	2	3	44
	Days by Boat		0				0			0
	Pay		300.00	150.00	240.00	240.00	240.00	60.00	90.00	1,320.00
	Boat/Gas		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL		300.00	150.00	240.00	240.00	240.00	60.00	90.00	1,320.00
Paul Parka, Sr. Gen Del Napak 99559 589-2213	Days Worked		8	8	8	10	8	5	3	50
	Days by Boat		8	8	8	10	8	5	3	50
	Pay		240.00	240.00	240.00	300.00	240.00	150.00	90.00	1,500.00
	Boat/Gas		80.00	80.00	80.00	100.00	80.00	50.00	30.00	500.00
	TOTAL		320.00	320.00	320.00	400.00	320.00	200.00	120.00	2,000.00
Dan Ekamrak Box 55 Akiac 99551 825-4015/8327	Days Worked		9	8	8	10	8	5	3	51
	Days by Boat		9	8	8	10	8	5	3	51
	Pay		270.00	240.00	240.00	300.00	240.00	150.00	90.00	1,530.00
	Boat/Gas		90.00	80.00	80.00	100.00	80.00	50.00	30.00	510.00
	TOTAL		360.00	320.00	320.00	400.00	320.00	200.00	120.00	2,040.00
David Simeon Box CHU Chuath, 99577-8999 msg 467-4115	Days Worked		7	10	4	4	7	6		38
	Days by Boat		7	10	4	4	7	6		0
	Pay		210.00	300.00	120.00	120.00	210.00	180.00	0.00	1,140.00
	Boat/Gas		70.00	100.00	40.00	40.00	70.00	60.00	0.00	380.00
	TOTAL		280.00	400.00	160.00	160.00	280.00	240.00	0.00	1,520.00
	TOTAL		\$1,260	\$1,190	\$1,040	\$1,200	\$1,160	\$700	\$330	\$6,880
MILDRED CHASE		\$590	1,300	1,300	1,300	1,300	1300	1300	650	\$9,040
OFFICE SUPPLY				2	174	2		2	2	\$182
TELEPHONE				49		200			176	\$425
PERSONNEL TRAVEL			500		178					\$678
		\$590	\$3,060	\$2,541	\$2,692	\$2,702	TOTAL SUB-SURVEY EXPENSE =			\$17,205
MAY, JUNE EXPENSE TOTAL = \$6191										
'90 CONTRACT EXPENSE = \$11,014										



KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM

REPORTED CATCH

FMN	LOC	DATE		S/D	TIME	←6	→8	MESH	FMS	KING	KING	CHUM	RED	SILVER	PINK
#	#							DEPTH	NET	CPUE	CPUE	CPUE	CPUE	CPUE	CPUE
7	6/2	1	D	2			X	45	50	3	3.00	0.00		0.00	0.00
3	6/2	1	D	0.75			X	45	50	1	2.67	0.00		0.00	0.00
1	6/2	1	D	0.5			X	45	50	1	4.00	0.00		0.00	0.00
S 3	6/2	1	D				X	45		5	3.22	0	0.00	0	0.00
8	6/4	1	D	3			X	45	50	21	14.00	0.00		0.00	0.00
2	6/4	1	D	3.5			X	45	50	24	13.71	0.00		0.00	0.00
S 2	6/4	1	D				X	45		45	13.86	0	0.00	0	0.00
3	6/5	1	D	1.5			X	45	50	13	17.33	0.00		0.00	0.00
1	6/5	1	D	3			X	45	50	28	18.67	1	0.67	0.00	0.00
6	6/5	1	D	3			X	45	50	22	14.67	0.00		0.00	0.00
S 3	6/5	1	D				X	45		63	15.89	1	0.22	0	0.00
7	6/8	1	D	1			X	45	50	2	4.00	0.00		0.00	0.00
17	6/8	1	D	1.5			X	45	50	6	8.00	0.00		0.00	0.00
12	6/8	1	D	2			X	45	50	16	16.00	0.00		0.00	0.00
18	6/8	1	D	3.5			X	45	50	27	15.43	0.00		0.00	0.00
S 4	6/6	1	D				X	45		51	10.86	0	0.00	0	0.00
19	6/7	1	D	4			X	29	8	10	31.25	0.00		0.00	0.00
4	6/7	1	D	4			X	45	50	26	13.00	0.00		0.00	0.00
18	6/7	1	D	3.5			X	45	50	27	15.43	0.00		0.00	0.00
3	6/7	1	D	3.5			X	45	50	29	16.57	0.00		0.00	0.00
6	6/7	1	D	1.5			X	45	50	12	16.00	0.00		0.00	0.00
1	6/7	1	D	3			X	45	50	18	12.00	0.00		0.00	0.00
5	6/7	1	D	3			X	45	50	10	8.67	0.00		0.00	0.00
15	6/7	1	D	4			X	45	50	30	16.00	0.00		0.00	0.00
12	6/7	1	D	2.5			X	45	50	12	9.60	0.00	1	0.80	0.00
9	6/7	1	D				X	45		174	15.06	0	0.00	1	0.09
3	6/8	1	D	2			X	45	50	40	40.00	0.00		0.00	0.00
13	6/8	1	D	1.5			X	45	50	24	32.00	1	1.33	0.00	0.00
17	6/8	1	D	3.5			X	45	50	18	10.29	2	1.14	0.00	0.00
2	6/8	1	D	0.75			X	45	50	25	56.67	0.00		0.00	0.00
6	6/8	1	D	0.75			X	45	50	25	56.67	0.00		0.00	0.00
12	6/8	1	D	2			X	45	50	6	6.00	0.00		0.00	0.00
5	6/8	1	D	2			X	45	50	23	23.00	1	1.00	0.00	0.00
13	6/8	1	D	3			X	45	50	51	34.00	0.00		0.00	0.00
1	6/8	1	D	2			X	45	50	7	7.00	12	12.00	0.00	0.00
15	6/8	1	D	0.75			X	45	50	15	40.00	0.00		0.00	0.00
4	6/8	1	D	2.5			X	45	50	30	24.00	0.00	2	1.60	0.00
S 11	6/8	1	D				X	45		264	31.78	16	1.41	3	0.24
12	6/11	1	D	1		X		45	50	11	22.00	6	12.00		0.00
S 1	6/11	1	D			X		45		11	22.00	6	12.00	0	0.00
11	6/11	1	D	3			X	45	50	14	9.33	0.00		0.00	0.00
3	6/11	1	D	3			X	45	50	40	26.67	1	0.67	0.00	0.00
4	6/11	1	D	0.5			X	45	50	10	40.00	0.00		0.00	0.00
5	6/11	1	D	2.5			X	45	50	10	8.00	0.00		0.00	0.00
12	6/11	1	D	1			X	45	50	18	36.00	0.00		0.00	0.00
13	6/11	1	D	1			X	45	50	11	22.00	0.00		0.00	0.00
S 6	6/11	1	D				X	45		103	23.67	1	0.11	0	0.00
3	6/12	1	D	3			X	45	50	9	8.00	1	0.67	0.00	0.00
2	6/12	1	D	1.5			X	45	50	19	25.33	1	1.33	0.00	0.00
6	6/12	1	D	5			X	45	50	23	92.00	7	2.80	0.00	0.00
4	6/12	1	D	0.5			X	45	50	23	92.00	0.00		0.00	0.00
5	6/12	1	D	8			X	45	50	31	10.33	0.00		0.00	0.00
3	6/12	1	D	0.75			X	45	50	9	24.00	2	5.33	1	2.67
12	6/12	1	D	54			X	45	50	25	0.93	2	0.07	0.00	0.00
14	6/12	1	D	3			X	45	50	18	12.00	3	2.00	3	2.00
18	6/12	1	D	3			X	45	50	22	14.67	0.00		0.00	0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM

REPORTED CATCH

FMN	LOC	SUBSISTENCE CATCH DATA FORM				REPORTED CATCH										
#	DATE	#	S/D	TIME	<=6	>6	MESH	FMN	KING	KING	CHUM	CHUM	RED	RED	SILVER	PINK
							DEPTH	NET	CPUE	CPUE	CPUE	CPUE	CPUE	CPUE	CPUE	CPUE
9	6/12	1	D			X	45		179	30.81	18	1.36	4	0.52	0	0.00
10	6/12	1	S	24		X	45	50	18	1.50		0.00		0.00		0.00
S 1	6/12	1	S			X	45		18	1.50	0	0.00	0	0.00	0	0.00
7	6/13	1	D	4		X	45	50	31	15.50		0.00	1	0.50		0.00
10	6/13	1	D	4		X	45	50	48	24.00	2	1.00		0.00		0.00
13	6/13	1	D	1.5		X	45	50	19	25.33		0.00		0.00		0.00
13	6/13	1	D	3		X	45	50	49	32.67	2	1.33		0.00		0.00
S 4	6/13	1	D			X	45		147	24.38	4	0.58	1	0.13	0	0.00
5	6/14	1	D	0.75		X	45	50	18	48.00	1	2.67	1	2.67		0.00
10	6/14	1	D	4		X	45	50	65	32.50	2	1.00		0.00		0.00
14	6/14	1	D	4		X	45	50	25	12.50	1	0.50		0.00		0.00
S 3	6/14	1	D			X	45		108	31.00	4	1.39	1	0.89	0	0.00
2	6/18	1	D	2		X	45	50	22	22.00	4	4.00	1	1.00		0.00
5	6/18	1	D	2.5		X	45	50	25	20.00	2	1.60	2	1.60		0.00
S 2	6/18	1	D			X	45		47	21.00	6	2.80	3	1.30	0	0.00
12	6/19	1	D	1.5	X		45	50	26	34.67		0.00		0.00		0.00
S 1	6/19	1	D		X		45		26	34.67	0	0.00	0	0.00	0	0.00
8	6/19	1	D	1		X	45	50	29	58.00	1	2.00	2	4.00		0.00
12	6/19	1	D	1		X	45	50	20	40.00	20	40.00	10	20.00		0.00
14	6/19	1	D	4		X	45	50	27	13.50	2	1.00	9	4.50		0.00
7	6/19	1	D	0.5		X	45	50	3	12.00		0.00		0.00		0.00
4	6/19	1	D			X	45		79	30.88	23	10.75	21	7.13	0	0.00
3	6/6	2	D	2	X		45	50	4	4.00		0.00		0.00		0.00
4	6/6	2	D	2	X		45	50	4	4.00		0.00		0.00		0.00
S 7	6/6	2	D		X		45		8	4.00	0	0.00	0	0.00	0	0.00
2	6/6	2	S	24		X	29	35	2	0.24		0.00		0.00		0.00
5	6/6	2	S	12		X	29	45	2	0.37		0.00		0.00		0.00
1	6/6	2	S	24		X	45	25	5	0.83		0.00		0.00		0.00
S 3	6/6	2	S			X	45		9	0.48	0	0.00	0	0.00	0	0.00
8	6/7	2	D	2.5		X	30	50	4	3.20		0.00		0.00		0.00
9	6/7	2	D	4		X	30	50	10	5.00		0.00		0.00		0.00
12	6/7	2	D	3		X	30	50	6	4.00		0.00		0.00		0.00
13	6/7	2	D	3		X	35	50	3	2.00		0.00		0.00		0.00
7	6/7	2	D	3.5		X	35	50	5	2.86		0.00		0.00		0.00
10	6/7	2	D	4		X	35	50	11	5.50		0.00		0.00		0.00
14	6/7	2	D	2.5		X	35	50	7	5.60		0.00		0.00		0.00
S 7	6/7	2	D			X	35		46	4.02	0	0.00	0	0.00	0	0.00
3	6/7	2	D	3.5	X		45	50	8	4.57		0.00		0.00		0.00
S 1	6/7	2	D		X		45		8	4.57	0	0.00	0	0.00	0	0.00
11	6/7	2	S	12		X	28	40	4	0.83		0.00		0.00		0.00
15	6/7	2	S	12		X	28	25	15	5.00		0.00		0.00		0.00
2	6/7	2	S	12		X	30	35	4	0.95		0.00		0.00		0.00
6	6/7	2	S	12		X	30	20	7	2.92		0.00		0.00		0.00
17	6/7	2	S	12		X	35	25	2	0.67		0.00		0.00		0.00
1	6/7	2	S	11		X	35	25	5	1.82		0.00		0.00		0.00
13	6/7	2	S	12		X	35	50	10	1.67		0.00		0.00		0.00
S 7	6/7	2	S			X	35		47	1.98	0	0.00	0	0.00	0	0.00
10	6/8	2	D	1.5		X	30	50	13	17.33	2	2.67		0.00		0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM										REPORTED CATCH							
FMN	LOC				MESH					FMS	KING	KING	CHUM	RED	SILVER	SILVER	PINK
#	DATE	#	S/D	TIME	<6	>6	DPTH	NET		CPUE	CHUM	CPUE	RED	CPUE	SILVER	CPUE	PINK
9	6/8	2	D	3		X	30	50	24	16.00	2	1.33		0.00		0.00	0.00
14	6/8	2	D	2		X	35	50	12	12.00		0.00		0.00		0.00	0.00
18	6/8	2	D	2		X	35	50	14	14.00	2	2.00	2	2.00		0.00	0.00
19	6/8	2	D	1		X	35	25	4	16.00		0.00		0.00		0.00	0.00
21	6/8	2	D	2.5		X	35	25	8	12.80		0.00		0.00		0.00	0.00
29	6/8	2	D	4		X	35	50	22	11.00		0.00		0.00		0.00	0.00
S 7	6/8	2	D			X	35		97	14.16	6	0.86	2	0.29	0	0.00	0 0.00
22	6/8	2	D	2	X		45	50	15	15.00	1	1.00		0.00		0.00	0.00
23	6/8	2	D	3	X		45	50	9	6.00	1	0.67		0.00		0.00	0.00
25	6/8	2	D	4	X		45	50	15	7.50		0.00		0.00		0.00	0.00
3	6/8	2	D	5	X		45	50	11	4.40	4	1.60		0.00		0.00	0.00
S 4	6/8	2	D			X	45		50	8.23	6	0.82	0	0.00	0	0.00	0 0.00
15	6/8	2	S	12		X	28	25	12	4.00	1	0.33		0.00		0.00	0.00
24	6/8	2	S	12		X	28	40	5	1.04		0.00		0.00		0.00	0.00
26	6/8	2	S	12		X	30	35	4	0.95		0.00		0.00		0.00	0.00
27	6/8	2	S	12		X	30	25	17	5.67		0.00		0.00		0.00	0.00
28	6/8	2	S	12		X	30	50	27	4.50	1	0.17		0.00		0.00	0.00
1	6/8	2	S	12		X	35	25	8	2.67		0.00		0.00		0.00	0.00
13	6/8	2	S	12		X	35	50	18	2.87		0.00	2	0.33		0.00	0.00
20	6/8	2	S	12		X	35	25	20	6.67		0.00		0.00		0.00	0.00
S 8	6/8	2	S			X	35		109	3.52	2	0.06	2	0.04	0	0.00	0 0.00
8	6/11	2	D	3		X	28	50	12	8.00		0.00		0.00		0.00	0.00
10	6/11	2	D	3		X	30	50	35	23.33	6	4.00		0.00		0.00	0.00
9	6/11	2	D	3		X	30	50	14	9.33		0.00		0.00		0.00	0.00
31	6/11	2	D	3		X	30	50	30	20.00	1	0.67		0.00		0.00	0.00
12	6/11	2	D	4		X	30	50	21	10.50		0.00		0.00		0.00	0.00
7	6/11	2	D	4		X	35	50	27	13.50		0.00		0.00		0.00	0.00
6	6/11	2	D			X	35		139	14.11	7	0.78	0	0.00	0	0.00	0 0.00
11	6/11	2	S	12		X	28	40	4	0.83		0.00		0.00		0.00	0.00
15	6/11	2	S	12		X	28	25	9	3.00	2	0.67		0.00		0.00	0.00
5	6/11	2	S	12		X	28	40	4	0.83		0.00		0.00		0.00	0.00
6	6/11	2	S	12		X	30	20	8	3.33		0.00		0.00		0.00	0.00
29	6/11	2	S	12		X	30	25	11	3.67		0.00		0.00		0.00	0.00
27	6/11	2	S	12		X	30	25	17	5.67		0.00		0.00		0.00	0.00
23	6/11	2	S	12		X	30	50	39	6.50	2	0.33	1	0.17		0.00	0.00
23	6/11	2	S	12		X	30	35	9	2.14		0.00		0.00		0.00	0.00
1	6/11	2	S	12		X	35	25	11	3.67		0.00		0.00		0.00	0.00
S 9	6/11	2	S			X	35		112	3.29	4	0.11	1	0.02	0	0.00	0 0.00
13	6/12	2	D	3.5		X	30	50	32	18.29		0.00		0.00		0.00	0.00
9	6/12	2	D	2.5		X	30	50	14	11.20		0.00		0.00		0.00	0.00
31	6/12	2	D	3		X	30	50	21	14.00		0.00		0.00		0.00	0.00
8	6/12	2	D	4		X	30	50	16	8.00	1	0.50		0.00		0.00	0.00
30	6/12	2	D	3		X	30	50	44	29.33		0.00		0.00		0.00	0.00
29	6/12	2	D	4		X	35	50	17	8.50		0.00		0.00		0.00	0.00
7	6/12	2	D	3		X	35	50	14	9.33		0.00		0.00		0.00	0.00
S 7	6/12	2	D			X	35		158	14.09	1	0.07	0	0.00	0	0.00	0 0.00
5	6/12	2	S	12		X	29	35	4	0.95		0.00		0.00		0.00	0.00
6	6/12	2	S	12		X	30	20	5	2.08	1	0.42		0.00		0.00	0.00
28	6/12	2	S	12		X	30	25	28	9.33	1	0.33	1	0.33		0.00	0.00
27	6/12	2	S	12		X	30	25	3	1.00		0.00		0.00		0.00	0.00
20	6/12	2	S	12		X	35	25	26	8.67		0.00		0.00		0.00	0.00
12	6/12	2	S	12		X	35	50	6	1.00		0.00		0.00		0.00	0.00
1	6/12	2	S	12		X	35	25	13	4.33		0.00		0.00		0.00	0.00
26	6/12	2	S	12		X	40	60	9	1.25	4	0.56	1	0.14		0.00	0.00
8	6/12	2	S			X	40		94	3.58	6	0.16	2	0.06	0	0.00	0 0.00
5	6/13	2	D	4		X	30	50	18	9.00		0.00		0.00		0.00	0.00
31	6/13	2	D	3		X	30	50	15	10.00	1	0.67		0.00		0.00	0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM

REPORTED CATCH

FMN	DATE	LOC	S/D	TIME	≤6	>6	MESH	FMS	KING	KING CPUE	CHUM	CHUM CPUE	RED	RED CPUE	SILVER	SILVER CPUE	PINK	PINK CPUE
12	6/13	2	D	2		X	30	50	6	6.00		0.00		0.00		0.00		0.00
10	6/13	2	D	3		X	35	50	22	14.67	3	2.00		0.00		0.00		0.00
23	6/13	2	D	1		X	35	50	10	20.00		0.00		0.00		0.00		0.00
16	6/13	2	D	3		X	35	50	50	33.33	10	6.67	8	5.33		0.00		0.00
4	6/13	2	D	3		X	35	50	30	20.00	4	2.67		0.00		0.00		0.00
26	6/13	2	D	3		X	45	50	13	8.67		0.00	1	0.67		0.00		0.00
S 8	6/13	2	D			X	45		164	15.21	18	1.50	9	0.75	0	0.00	0	0.00
5	6/13	2	S	12		X	28	35	3	0.71		0.00		0.00		0.00		0.00
15	6/13	2	S	12		X	28	25	15	5.00	4	1.33	4	1.33		0.00		0.00
2	6/13	2	S	12		X	28	35	19	4.52	1	0.24		0.00		0.00		0.00
28	6/13	2	S	12		X	30	25	7	2.33		0.00		0.00		0.00		0.00
27	6/13	2	S	12		X	30	25	10	3.33		0.00		0.00		0.00		0.00
22	6/13	2	S	12		X	30	35	2	0.48		0.00		0.00		0.00		0.00
S 6	6/13	2	S			X	30		56	2.73	5	0.26	4	0.22	0	0.00	0	0.00
9	6/14	2	D	3		X	30	50	18	12.00	7	4.67	2	1.33		0.00		0.00
31	6/14	2	D	2		X	30	50	7	7.00	3	3.00		0.00		0.00		0.00
7	6/14	2	D	3		X	35	50	21	14.00	1	0.67		0.00		0.00		0.00
22	6/14	2	D	2.5		X	35	50	6	4.80	3	2.40		0.00		0.00		0.00
11	6/14	2	D	4		X	35	50	9	4.50	1	0.50		0.00		0.00		0.00
16	6/14	2	D	3		X	35	50	40	28.67	3	2.00		0.00		0.00		0.00
10	6/14	2	D	4		X	35	50	22	11.00	3	1.50		0.00		0.00		0.00
S 7	6/14	2	D			X	35		123	11.42	21	2.10	2	0.19	0	0.00	0	0.00
15	6/14	2	S	12		X	29	25	8	2.67		0.00		0.00		0.00		0.00
5	6/14	2	S	12		X	29	35	5	1.19		0.00		0.00		0.00		0.00
27	6/14	2	S	12		X	35	25	17	6.67		0.00		0.00		0.00		0.00
S 3	6/14	2	S			X	35		30	3.17	0	0.00	0	0.00	0	0.00	0	0.00
23	6/15	2	D	2	X		45	50	9	9.00	15	15.00		0.00		0.00		0.00
S 1	6/15	2	D		X		45		8	9.00	16	15.00	0	0.00	0	0.00	0	0.00
12	6/15	2	D	3.5		X	30	50	82	35.43	7	4.00		0.00		0.00		0.00
14	6/15	2	D	2		X	35	50	10	10.00	1	1.00		0.00		0.00		0.00
7	6/15	2	D	3		X	35	50	18	12.00		0.00		0.00		0.00		0.00
8	6/15	2	D	4		X	30	50	27	13.50		0.00		0.00		0.00		0.00
8	6/15	2	D	3		X	30	50	23	15.33		0.00		0.00		0.00		0.00
3	6/15	2	D	4		X	30	50	30	15.00		0.00		0.00		0.00		0.00
29	6/15	2	D	13		X	35	50	27	4.15		0.00		0.00		0.00		0.00
S 7	6/15	2	D			X	35		187	15.06	8	0.71	0	0.00	0	0.00	0	0.00
5	6/15	2	S	12		X	29	35	3	0.71		0.00		0.00		0.00		0.00
26	6/15	2	S	12		X	30	60	4	0.58	1	0.14		0.00		0.00		0.00
20	6/15	2	S	12		X	35	25	18	6.00	3	1.00		0.00		0.00		0.00
29	6/15	2	S	12		X	30	25	27	9.00	9	3.00	1	0.33		0.00		0.00
27	6/15	2	S	12		X	30	25	2	0.67		0.00		0.00		0.00		0.00
6	6/15	2	S	12		X	30	20	21	8.75	1	0.42	4	1.67		0.00		0.00
S 6	6/15	2	S			X	30		75	4.28	14	0.76	5	0.33	0	0.00	0	0.00
1	6/18	2	D	8		X	35	25	6	3.00		0.00		0.00		0.00		0.00
18	6/18	2	D	1		X	25	50	1	2.00		0.00		0.00		0.00		0.00
25	6/18	2	D	2		X	35	50	13	13.00	1	1.00		0.00		0.00		0.00
14	6/18	2	D	0.5		X	45	50	9	36.00	11	44.00	1	4.00		0.00		0.00
29	6/18	2	D	3		X	35	50	28	18.67	7	4.67		0.00		0.00		0.00
32	6/18	2	D	2		X	35	50	9	9.00	10	10.00	6	6.00		0.00		0.00
S 6	6/18	2	D			X	35		66	13.61	29	9.94	7	1.67	0	0.00	0	0.00
13	6/18	2	S	12		X	35	50	4	0.67		0.00		0.00		0.00		0.00
5	6/18	2	S	12		X	29	45	27	5.00		0.00		0.00		0.00		0.00
5	6/18	2	S	12		X	29	35	17	4.05		0.00		0.00		0.00		0.00
19	6/18	2	S	12		X	30	45	25	4.63	1	0.19		0.00		0.00		0.00
19	6/18	2	S	12		X	29	40	9	1.88	1	0.21		0.00		0.00		0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM										REPORTED CATCH								
FMN	LOC					MESH	FMS	KING	CHUM	CHUM	RED	RED	SILVER	SILVER	PINK	PINK		
#	DATE	#	S/D	TIME	≤6	>6	DPTH	NET	KING	CPUE	CHUM	CPUE	RED	CPUE	SILVER	CPUE	PINK	CPUE
5	6/18	2	S			X	29		82	3.24	2	0.08	0	0.00	0	0.00	0	0.00
14	6/19	2	D	2		X	35	50	16	16.00	2	2.00	1	1.00		0.00		0.00
16	6/19	2	D	3		X	30	50	19	12.67		0.00	1	0.67		0.00		0.00
21	6/19	2	D	1		X	35	50	20	40.00		0.00		0.00		0.00		0.00
S 3	6/19	2	D			X	35		55	22.89	2	0.67	2	0.58	0	0.00	0	0.00
20	6/19	2	S	12		X	35	50	37	6.17		0.00		0.00		0.00		0.00
5	6/19	2	S	12		X	29	35	3	0.71		0.00		0.00		0.00		0.00
26	6/19	2	S	12		X	30	60	2	0.28	2	0.28	2	0.28		0.00		0.00
S 3	6/19	2	S			X	30		42	2.39	2	0.09	2	0.09	0	0.00	0	0.00
2	6/5	3	D	0.5		X	35	50	3	12.00		0.00		0.00		0.00		0.00
12	6/5	3	D	0.5		X	35	50	2	8.00		0.00		0.00		0.00		0.00
S 2	6/5	3	D			X	35		5	10.00	0	0.00	0	0.00	0	0.00	0	0.00
4	6/5	3	S	24		X	35	25	5	0.83		0.00		0.00		0.00		0.00
6	6/5	3	S	16		X	35	20	2	0.63		0.00		0.00		0.00		0.00
7	6/5	3	S	24		X	35	7	1	0.60		0.00		0.00		0.00		0.00
S 3	6/5	3	S			X	35		8	0.68	0	0.00	0	0.00	0	0.00	0	0.00
12	6/6	3	D	0.5		X	35	50	1	4.00		0.00		0.00		0.00		0.00
15	6/6	3	D	0.5		X	35	50	2	8.00		0.00		0.00		0.00		0.00
S 2	6/6	3	D			X	35		3	6.00	0	0.00	0	0.00	0	0.00	0	0.00
5	6/6	3	S	6		X	35	25	5	3.33		0.00		0.00		0.00		0.00
6	6/6	3	S	8		X	35	20	4	2.50		0.00		0.00		0.00		0.00
7	6/6	3	S	24		X	35	7	3	1.79		0.00		0.00		0.00		0.00
8	6/6	3	S	24		X	35	25	5	0.83		0.00		0.00		0.00		0.00
14	6/6	3	S	24		X	35	20	3	0.63		0.00		0.00		0.00		0.00
S 5	6/6	3	S			X	35		20	1.82	0	0.00	0	0.00	0	0.00	0	0.00
9	6/7	3	D	1.5		X	35	50	1	1.33		0.00		0.00		0.00		0.00
12	6/7	3	D	1		X	35	50	2	4.00		0.00		0.00		0.00		0.00
13	6/7	3	D	4.5		X	35	50	2	0.89		0.00		0.00		0.00		0.00
S 3	6/7	3	D			X	35		5	2.07	0	0.00	0	0.00	0	0.00	0	0.00
7	6/7	3	S	14		X	35	7	3	3.06		0.00		0.00		0.00		0.00
5	6/7	3	S	14		X	35	25	5	1.43	1	0.29		0.00		0.00		0.00
6	6/7	3	S	14		X	35	25	5	1.43		0.00		0.00		0.00		0.00
11	6/7	3	S	24		X	35	10	1	0.42		0.00		0.00		0.00		0.00
1	6/7	3	S	14		X	35	20	1	0.38		0.00		0.00		0.00		0.00
S 5	6/7	3	S			X	35		15	1.34	1	0.06	0	0.00	0	0.00	0	0.00
17	6/8	3	D	0.5		X	35	50	5	20.00		0.00		0.00		0.00		0.00
9	6/8	3	D	1		X	35	50	9	18.00		0.00		0.00		0.00		0.00
14	6/8	3	D	2		X	35	50	7	7.00	1	1.00		0.00		0.00		0.00
S 3	6/8	3	D			X	35		21	15.00	1	0.33	0	0.00	0	0.00	0	0.00
5	6/8	3	S	19		X	35	25	7	1.47	1	0.21		0.00		0.00		0.00
6	6/8	3	S	15		X	35	25	6	1.80		0.00		0.00		0.00		0.00
1	6/8	3	S	24		X	35	25	5	0.83		0.00		0.00		0.00		0.00
8	6/8	3	S	24		X	35	25	4	0.67		0.00		0.00		0.00		0.00
7	6/8	3	S	24		X	35	7	3	1.79		0.00		0.00		0.00		0.00
12	6/8	3	S	24		X	35	15	0	0.00		0.00		0.00		0.00		0.00
6	6/8	3	S			X	35		25	1.08	1	0.04	0	0.00	0	0.00	0	0.00
12	6/11	3	D	2.5		X	35	50	39	31.20		0.00		0.00		0.00		0.00
18	6/11	3	D	0.25		X	35	50	22	176.00		0.00		0.00		0.00		0.00
9	6/11	3	D	0.5		X	35	50	8	24.00		0.00		0.00		0.00		0.00
18	6/11	3	D	1		X	35	50	20	40.00		0.00		0.00		0.00		0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM																
REPORTED CATCH																
FMN #	DATE	LOC #	S/D	TIME	<6	>8	MESH	FMS	KING	CPUE	CHUM	CPUE	RED	CPUE	SILVER	PINK
4	6/11	3	D			X	35		87	67.80	0	0.00	0	0.00	0	0.00
3	6/11	3	S	24		X	35	10	3	1.25		0.00		0.00	0.00	0.00
5	6/11	3	S	24		X	35	25	5	0.83		0.00		0.00	0.00	0.00
8	6/11	3	S	24		X	35	25	4	0.67		0.00		0.00	0.00	0.00
8	6/11	3	S	24		X	35	25	16	2.87		0.00		0.00	0.00	0.00
19	6/11	3	S	24		X	35	15	10	2.78		0.00		0.00	0.00	0.00
S 5	6/11	3	S			X	35		38	1.64	0	0.00	0	0.00	0	0.00
8	6/11	3	S	24	X		45	25	10	1.67	1	0.17	1	0.17	0.00	0.00
S 1	6/11	3	S		X		45		10	1.67	1	0.17	1	0.17	0	0.00
20	6/12	3	D	1		X	35	50	26	52.00		0.00	4	8.00	0.00	0.00
13	6/12	3	D	1		X	35	50	14	28.00		0.00		0.00	0.00	0.00
4	6/12	3	D	0.5		X	35	50	16	64.00		0.00		0.00	0.00	0.00
21	6/12	3	D	1.5		X	35	50	60	80.00		0.00		0.00	0.00	0.00
22	6/12	3	D	1		X	35	50	18	36.00		0.00		0.00	0.00	0.00
9	6/12	3	D	0.5		X	35	50	8	24.00		0.00		0.00	0.00	0.00
11	6/12	3	D	0.5		X	35	50	8	32.00	4	16.00		0.00	0.00	0.00
S 7	6/12	3	D			X	35		148	45.14	4	2.29	4	1.14	0	0.00
5	6/12	3	S	24		X	35	25	10	1.67		0.00		0.00	0.00	0.00
6	6/12	3	S	24		X	35	25	5	0.83		0.00		0.00	0.00	0.00
8	6/12	3	S	24		X	35	25	26	4.33		0.00		0.00	0.00	0.00
S 3	6/12	3	S			X	35		41	2.28	0	0.00	0	0.00	0	0.00
19	6/13	3	D	0.5		X	35	50	18	64.00		0.00		0.00	0.00	0.00
14	6/13	3	D	0.75		X	35	50	16	42.67		0.00		0.00	0.00	0.00
21	6/13	3	D	2		X	35	50	31	31.00		0.00		0.00	0.00	0.00
9	6/13	3	D	0.5		X	35	50	3	12.00		0.00		0.00	0.00	0.00
S 4	6/13	3	D			X	35		68	37.42	0	0.00	0	0.00	0	0.00
5	6/13	3	S	13		X	35	25	18	4.92		0.00		0.00	0.00	0.00
6	6/13	3	S	15		X	35	25	10	2.67		0.00		0.00	0.00	0.00
4	6/13	3	S	24		X	35	12	3	1.04		0.00		0.00	0.00	0.00
11	6/13	3	S	24		X	35	10	18	7.50	1	0.42		0.00	0.00	0.00
3	6/13	3	S	24		X	45	10	1	0.42		0.00		0.00	0.00	0.00
S 5	6/13	3	S			X	45		48	3.31	1	0.08	0	0.00	0	0.00
23	6/14	3	D	1		X	35	50	48	98.00		0.00		0.00	0.00	0.00
24	6/14	3	D	2		X	45	50	24	24.00		0.00		0.00	0.00	0.00
S 2	6/14	3	D			X	45		72	60.00	0	0.00	0	0.00	0	0.00
5	6/14	3	S	12		X	35	25	4	1.33	1	0.33		0.00	0.00	0.00
6	6/14	3	S	10		X	35	25	5	2.00		0.00		0.00	0.00	0.00
7	6/14	3	S	24		X	35	10	5	2.08	1	0.42		0.00	0.00	0.00
13	6/14	3	S	12		X	35	12	14	9.72		0.00		0.00	0.00	0.00
21	6/14	3	S	12		X	35	10	5	4.17		0.00		0.00	0.00	0.00
10	6/14	3	S	10		X	35	15	8	5.33		0.00		0.00	0.00	0.00
3	6/14	3	S	24		X	45	10	2	0.83		0.00		0.00	0.00	0.00
S 7	6/14	3	S			X	45		43	3.64	2	0.11	0	0.00	0	0.00
21	6/15	3	D	0.33	X		45	50	18	109.09	5	30.30	3	18.18	0.00	0.00
23	6/15	3	D	1	X		45	50	7	14.00	4	8.00	3	6.00	0.00	0.00
S 2	6/15	3	D		X		45		25	61.55	9	19.15	8	12.09	0	0.00
7	6/15	3	D	1		X	30	50	15	30.00	2	4.00		0.00	0.00	0.00
12	6/15	3	D	1		X	45	50	40	80.00	40	80.00	15	30.00	0.00	0.00
22	6/15	3	D	0.33		X	45	50	21	127.27	2	12.12	1	6.06	0.00	0.00
14	6/15	3	D	0.5		X	45	50	20	80.00		0.00		0.00	0.00	0.00
S 4	6/15	3	D			X	45		96	79.32	16	24.03	16	9.02	0	0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM											REPORTED CATCH							
FMN	LOC						MESH	FMJ	KING		CHUM	CHUM	RED	RED	SILVER	SILVER	PINK	PINK
#	DATE	#	S/D	TIME	<6	>6	DEPTH	NET		CPUE	CHUM	CPUE	RED	CPUE	SILVER	CPUE	PINK	CPUE
5	6/15	3	S	24		X	35	25	10	1.87	3	0.50	2	0.33		0.00		0.00
6	6/15	3	S	24		X	35	25	8	1.00		0.00		0.00		0.00		0.00
11	6/15	3	S	24		X	35	10	11	4.58	4	1.87	1	0.42		0.00		0.00
19	6/15	3	S	24		X	35	25	16	2.67	3	0.50		0.00		0.00		0.00
S 4	6/15	3	S			X	35		43	2.48	10	0.67	3	0.19	0	0.00	0	0.00
5	6/18	3	D	0.33	X		45	50	16	90.91	21	127.27	12	72.73		0.00		0.00
12	6/18	3	D	2	X		45	50	15	15.00	20	20.00	5	5.00		0.00		0.00
S 2	6/18	3	D		X		45		30	52.96	41	73.64	17	38.88	0	0.00	0	0.00
9	6/18	3	D	0.33		X	35	50	12	72.73	4	24.24		0.00		0.00		0.00
4	6/18	3	D	5		X	45	50	48	19.20	52	20.80	10	4.00		0.00		0.00
S 2	6/18	3	D			X	45		60	45.96	56	22.52	10	2.00	0	0.00	0	0.00
8	6/18	3	S	6	X		45	25	8	5.33		0.00	3	2.00		0.00		0.00
S 1	6/18	3	S			X	45		8	5.33	0	0.00	3	2.00	0	0.00	0	0.00
14	8/18	3	S	24		X	35	50	12	1.00		0.00	4	0.33		0.00		0.00
19	8/18	3	S	24		X	45	10	9	3.75		0.00		0.00		0.00		0.00
6	6/18	3	S	12		X	35	25	10	3.33	1	0.33	2	0.87		0.00		0.00
5	6/18	3	S	12		X	35	25	12	4.00		0.00	3	1.00		0.00		0.00
8	8/18	3	S	6		X	35	25	2	1.33		0.00		0.00		0.00		0.00
S 5	6/18	3	S			X	35		45	2.68	1	0.07	9	0.40	0	0.00	0	0.00
1	6/12	4	D	1	X		25	30	2	6.67	2	6.67		0.00		0.00		0.00
S 1	6/12	4	D			X	25		2	6.67	2	6.67	0	0.00	0	0.00	0	0.00
3	8/14	4	S	24	X		25	30	1	0.14		0.00		0.00		0.00		0.00
S 1	8/14	4	S			X	25		1	0.14	0	0.00	0	0.00	0	0.00	0	0.00
4	6/15	4	D	3	X		30	60	10	5.56	17	9.44		0.00		0.00		0.00
S 1	6/15	4	D			X	30		10	5.56	17	9.44	0	0.00	0	0.00	0	0.00
3	6/15	4	S	24	X		25	30		0.00	1	0.14		0.00		0.00		0.00
S 1	6/15	4	S			X	25		0	0.00	1	0.14	0	0.00	0	0.00	0	0.00
4	6/16	4	D	3	X		30	60	8	4.44	11	6.11	1	0.56		0.00		0.00
S 1	8/16	4	D			X	30		8	4.44	11	6.11	1	0.56	0	0.00	0	0.00
3	6/16	4	S	24	X		25	30	1	0.14	1	0.14		0.00		0.00		0.00
S 1	6/16	4	S			X	25		1	0.14	1	0.14	0	0.00	0	0.00	0	0.00
1	6/17	4	D	4	X		30	30	10	8.33		0.00		0.00		0.00		0.00
S 1	6/17	4	D			X	30		10	8.33	0	0.00	0	0.00	0	0.00	0	0.00
1	6/18	4	D	3	X		30	30	9	10.00		0.00		0.00		0.00		0.00
2	6/18	4	D	1	X		30	40		0.00	9	22.50		0.00		0.00		0.00
4	8/18	4	D	2	X		30	14	14	50.00	15	53.57		0.00		0.00		0.00
S 3	6/18	4	D			X	30		23	20.00	24	25.36	0	0.00	0	0.00	0	0.00
3	6/18	4	S	24	X		25	30	1	0.14		0.00		0.00		0.00		0.00
1	8/18	4	S			X	25		1	0.14	0	0.00	0	0.00	0	0.00	0	0.00
9	6/19	4	D	3	X		30	60	18	10.00	16	8.89		0.00		0.00		0.00
S 1	6/19	4	D			X	30		18	10.00	16	8.89	0	0.00	0	0.00	0	0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM											REPORTED CATCH							
FMN	LOC						MESH	FMS	KING		CHUM	RED	SILVER	PINK				
#	DATE	#	S/D	TIME	<=6	>6	DEPTH	NET	CPUE	CHUM	CPUE	RED	CPUE	SILVER	CPUE	PINK	CPUE	
2	6/19	4	S	24	X		30	25	2	0.33	2	0.33		0.00		0.00	0.00	
3	6/19	4	S	24	X		30	30	2	0.28		0.00	1	0.14		0.00	0.00	
S 2	6/19	4	S		X		30		4	0.31	2	0.17	1	0.07	0	0.00	0 0.00	
4	6/20	4	D	3	X		30	60	13	7.22	7	3.89		0.00		0.00	0.00	
S 1	6/20	4	D		X		30		13	7.22	7	3.89	0	0.00	0	0.00	0 0.00	
2	6/20	4	S	24	X		30	40	3	0.31	2	0.21		0.00		0.00	0.00	
3	6/20	4	S	24	X		30	30		0.00		0.00	1	0.14		0.00	0.00	
S 2	6/20	4	S		X		30		3	0.16	2	0.10	1	0.07	0	0.00	0 0.00	
10	6/21	2	D	3	X		45	50	8	5.33	150	100.00	35	23.33		0.00	0.00	
S 1	6/21	2	D		X		46		8	5.33	150	100.00	35	23.33	0	0.00	0 0.00	
7	6/21	2	D	3		X	36	50	20	13.33		0.00	0	0.00		0.00	0.00	
8	6/21	2	D	3		X	30	50	47	31.33		0.00	0	0.00		0.00	0.00	
30	6/21	2	D	2		X	30	50	25	25.00		0.00	0	0.00		0.00	0.00	
33	6/21	2	D	1		X	35	50	63	128.00		0.00	0	0.00		0.00	0.00	
25	6/21	2	D	1		X	35	50	18	38.00		0.00	0	0.00		0.00	0.00	
S 5	6/21	2	D		X		35		173	48.33	0	0.00	0	0.00	0	0.00	0 0.00	
5	6/21	2	S	4		X	29	35	2	1.43		0.00	0	0.00		0.00	0.00	
S 1	6/21	2	S		X		29		2	1.43	0	0.00	0	0.00	0	0.00	0 0.00	
6	6/21	3	D	0.25	X		35	50	15	120.00	20	160.00	5	40.00		0.00	0.00	
1	6/21	3	D		X		35		15	120.00	20	160.00	5	40.00	0	0.00	0 0.00	
8	6/21	3	S	24	X		45	20	15	3.13	28	5.83	6	1.25		0.00	0.00	
S 1	6/21	3	S		X		45		15	3.13	28	5.83	6	1.25	0	0.00	0 0.00	
3	6/21	3	S	24		X	35	10	3	1.25	5	2.08	2	0.83		0.00	0.00	
5	6/21	3	S	12		X	35	25	40	13.33	5	1.67	5	1.67		0.00	0.00	
6	6/21	3	S	15		X	35	25	30	8.00	3	0.80	1	0.27		0.00	0.00	
10	6/21	3	S	12		X	35	15	10	5.58	4	2.22	1	0.58		0.00	0.00	
8	6/21	3	S	24		X	35	25	28	4.67	15	2.50	3	0.50		0.00	0.00	
S 5	6/21	3	S		X		35		111	6.56	32	1.85	12	0.76	0	0.00	0 0.00	
1	6/22	4	D	1	X		30	30		0.00	1	3.33	0	0.00		0.00	0.00	
4	6/22	4	D	2	X		30	60	26	21.87	46	38.33	15	12.50		0.00	0.00	
S 2	6/22	4	D		X		30		26	10.83	47	20.83	15	6.25	0	0.00	0 0.00	
2	6/22	4	S	24	X		30	25	20	3.33	1	0.17	0	0.00		0.00	0.00	
3	6/22	4	S	24	X		30	30	0	0.00	1	0.14	1	0.14		0.00	0.00	
S 2	6/22	4	S		X		30		20	1.87	2	0.15	1	0.07	0	0.00	0 0.00	
11	6/22	2	D	1	X		45	50	3	6.00	9	18.00	3	6.00		0.00	0.00	
6	6/22	2	D	2	X		45	50	7	7.00	60	80.00	14	14.00		0.00	0.00	
9	6/22	2	D	2	X		45	50	12	12.00	72	72.00	35	35.00		0.00	0.00	
31	6/22	2	D	3	X		45	50	8	5.33	58	38.67	25	18.67		0.00	0.00	
24	6/22	2	D	3	X		45	50	7	4.67	90	60.00	1	0.67		0.00	0.00	
S 5	6/22	2	D		X		45		37	7.00	289	49.73	78	14.47	0	0.00	0 0.00	
30	6/22	2	D	4		X	30	50	32	16.00	0	0.00	0	0.00		0.00	0.00	
13	6/22	2	D	2		X	30	50	26	26.00	0	0.00	1	1.00		0.00	0.00	
S 2	6/22	2	D		X		30		58	21.00	0	0.00	1	0.50	0	0.00	0 0.00	
34	6/22	2	S	13		X	35	25	70	21.54	0	0.00	0	0.00		0.00	0.00	



KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

FVN #	DATE	LOC #	SUBSISTENCE CATCH DATA				MESH FMS				REPORTED CATCH				SILVER CPUE	PINK CPUE
			S/D	TIME	←6	→8	DEPTH	NET	KING	CPUE	CHUM	CPUE	RED	CPUE		
5	6/22	2	S	3		X	29	35	2	1.90	0	0.00	0	0.00	0.00	0.00
2	6/22	2	S			X	29		72	11.72	0	0.00	0	0.00	0	0.00
6	6/22	3	D	0.25	X		35	50	5	40.00	20	160.00	5	40.00	0.00	0.00
25	6/22	3	D	0.25	X		45	50	4	32.00	25	200.00	3	24.00	0.00	0.00
S 2	6/22	3	D		X		45		9	36.00	45	180.00	8	32.00	0	0.00
12	6/22	3	D	0.25		X	35	50	10	80.00	4	32.00	5	40.00	0.00	0.00
S 1	6/22	3	D			X	35		10	80.00	4	32.00	5	40.00	0	0.00
3	6/22	3	S	12	X		45	10	3	2.50	4	3.33	2	1.67	0.00	0.00
8	6/22	3	S	12	X		45	25	4	1.33	34	11.33	6	2.00	0.00	0.00
S 2	6/22	3	S		X		45		7	1.92	38	7.33	8	1.83	0	0.00
5	6/22	3	S	12		X	35	25	34	11.33	6	2.00	5	1.67	0.00	0.00
6	6/22	3	S	12		X	35	25	40	13.33	5	1.67	5	1.67	0.00	0.00
10	6/22	3	S	12		X	35	15	8	4.44	6	3.33	2	1.11	0.00	0.00
8	6/22	3	S	12		X	35	25	18	6.00	8	2.67	2	0.67	0.00	0.00
S 4	6/22	3	S			X	35		100	8.78	25	2.42	14	1.28	0	0.00
7	6/22	1	D	1	X		45	50	12	24.00	18	32.00	10	20.00	0.00	0.00
S 1	6/22	1	D		X		45		12	24.00	18	32.00	10	20.00	0	0.00
1	6/23	1	D	2	X		45	50	8	8.00	60	60.00	40	40.00	0.00	0.00
S 1	6/23	1	D		X		45		8	8.00	60	60.00	40	40.00	0	0.00
3	6/23	1	D	4		X	45	50	13	6.50	13	6.50	7	3.50	0.00	0.00
4	6/23	1	D	4		X	45	50	10	5.00	6	3.00	0	0.00	0.00	0.00
5	6/23	1	D	2		X	45	50	11	11.00	3	3.00	3	3.00	0.00	0.00
S 3	6/23	1	D			X	45		34	7.50	22	4.17	10	2.17	0	0.00
7	6/26	1	D	1	X		45	50	1	2.00	15	30.00	0	0.00	0.00	0.00
10	6/26	2	D	3	X		45	50	7	4.67	130	86.67	35	23.33	0.00	0.00
29	6/26	2	D	2	X		45	50	29	29.00	86	86.00	9	9.00	0.00	0.00
35	6/26	2	D	0.5	X		45	50	0	0.00	20	80.00	0	0.00	0.00	0.00
16	6/26	2	D	0.25	X		45	50	0	0.00	45	360.00	20	160.00	0.00	0.00
9	6/26	2	D	3	X		45	50	4	2.67	155	103.33	15	10.00	0.00	0.00
7	6/26	2	D	0.08	X		45	50	0	0.00	4	100.00	0	0.00	0.00	0.00
S 6	6/26	2	D		X		45		40	6.06	440	136.00	79	33.72	0	0.00
33	6/26	2	D	3		X	35	50	17	11.33	85	56.67	0	0.00	0.00	0.00
36	6/26	2	D	3		X	35	50	39	26.00	47	31.33	17	11.33	0.00	0.00
S 2	6/26	2	D			X	35		56	18.67	132	44.00	17	5.67	0	0.00
8	6/26	3	D	0.33		X	35	50	8	48.48	2	12.12	3	18.18	0.00	0.00
12	6/26	3	D	0.36		X	35	50	35	192.84	1	5.51	2	11.02	0.00	0.00
2	6/26	3	D	0.5		X	35	50	30	120.00	0	0.00	0	0.00	0.00	0.00
19	6/26	3	D	0.5		X	35	50	28	112.00	5	20.00	0	0.00	0.00	0.00
S 4	6/26	3	D			X	35		101	118.33	8	9.41	5	7.30	0	0.00
3	6/25	4	D	2	X		30	30	6	10.00	30	50.00	4	6.67	0.00	0.00
5	6/25	4	D	2	X		30	30	13	21.67	19	31.67	0	0.00	0.00	0.00
S 2	6/25	4	D		X		30		19	15.83	49	40.83	4	3.33	0	0.00
2	6/26	4	S	24	X		30	23	6	1.00	8	1.33	3	0.50	0.00	0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM										REPORTED CATCH							
FMN	LOC						MESH	FMS	KING	CHUM	CHUM	RED	RED	SILVER	SILVER	PINK	PINK
#	DATE	#	S/D	TIME	<56	>56	DPTH	NET	CPUE	CPUE	CPUE	CPUE	CPUE	CPUE	CPUE	CPUE	
1	6/26	4	S		X		30		6	1.00	8	1.33	3	0.50	0	0.00	
3	6/26	4	D	1	X		30	30	3	10.00	13	43.33	2	6.67		0.00	
4	6/26	4	D	1	X		30	50	40	80.00	0	0.00	0	0.00		0.00	
5	6/26	4	D	2	X		30	50	15	15.00	85	85.00	0	0.00		0.00	
S 3	6/26	4	D		X		30		58	35.00	98	42.78	2	2.22	0	0.00	
3	6/27	1	D	1.5	X		45	50	8	10.87	117	158.00	20	28.67		0.00	
1	6/27	1	D	1.5	X		45	50	0	0.00	165	220.00	30	40.00		0.00	
4	6/27	1	D	5	X		29	50	7	2.80	75	30.00	27	10.80		0.00	
5	6/27	1	D	0.5	X		29	50	3	12.00	111	444.00	10	40.00		0.00	
13	6/27	1	D	1.5	X		45	50	7	9.33	33	44.00	31	41.33		0.00	
18	6/27	1	D	2	X		45	50	0	0.00	216	216.00	40	40.00		0.00	
17	6/27	1	D	2	X		29	50	0	0.00	15	15.00	0	0.00		0.00	
S 7	6/27	1	D		X		29		25	4.97	732	160.71	158	28.40	0	0.00	
2	6/27	1	D	0.5		X	35	50	1	4.00	2	8.00	0	0.00		0.00	
14	6/27	1	D	3		X	45	50	6	4.00	4	2.67	0	0.00		0.00	
16	6/27	1	D	2		X	35	50	9	9.00	2	2.00	0	0.00		0.00	
S 3	6/27	1	D			X	35		16	6.67	8	4.22	0	0.00	0	0.00	
6	6/27	2	D	0.33	X		45	50	22	133.33	24	145.45	19	115.15		0.00	
2	6/27	2	D	2	X		45	50	2	2.00	60	60.00	15	15.00		0.00	
34	6/27	2	D	0.5	X		45	50	0	0.00	40	160.00	5	20.00		0.00	
31	6/27	2	D	0.42	X		45	50	0	0.00	100	476.19	105	500.00		0.00	
11	6/27	2	D	1	X		45	50	5	10.00	80	120.00	0	0.00		0.00	
28	6/27	2	D	0.17	X		45	50	0	0.00	6	58.82	0	0.00		0.00	
S 6	6/27	2	D		X		45		29	24.22	289	170.08	144	108.36	0	0.00	
7	6/27	2	D	2		X	35	50	19	19.00	45	45.00	0	0.00		0.00	
5	6/27	2	D	0.33		X	29	50	1	8.06	0	0.00	0	0.00		0.00	
25	6/27	2	D	2		X	35	50	18	18.00	3	3.00	1	1.00		0.00	
S 3	6/27	2	D			X	35		38	14.35	48	18.00	1	0.33	0	0.00	
6	6/27	3	D	0.42	X		45	50	8	38.10	80	380.95	10	47.62		0.00	
11	6/27	3	D	0.33	X		45	50	3	18.18	40	242.42	7	42.42		0.00	
S 2	6/27	3	D		X		45		11	28.14	120	311.69	17	45.02	0	0.00	
8	6/27	3	D	0.5		X	35	50	20	80.00	3	12.00	1	4.00		0.00	
S 1	6/27	3	D			X	35		20	80.00	3	12.00	1	4.00	0	0.00	
3	6/27	4	D	2	X		30	30	4	6.67	27	45.00	2	3.33		0.00	
5	6/27	4	D	3	X		30	30	12	13.33	19	21.11	2	2.22		0.00	
S 2	6/27	4	D		X		30		18	10.00	46	33.06	4	2.78	0	0.00	
35	6/28	2	D	1	X		45	50	9	18.00	21	42.00	7	14.00		0.00	
29	6/28	2	D	2	X		45	50	5	5.00	120	120.00	20	20.00		0.00	
10	6/28	2	D	1	X		45	50	1	2.00	140	280.00	25	50.00		0.00	
S 3	6/28	2	D		X		45		15	8.33	281	147.33	52	28.00	0	0.00	
33	6/28	2	D	1		X	35	50	10	20.00	4	8.00	0	0.00		0.00	
37	6/28	2	D	2		X	35	50	31	31.00	90	90.00	16	16.00		0.00	
3	6/28	2	D	3		X	35	50	25	16.67	14	9.33	20	13.33		0.00	
S 3	6/28	2	D			X	35		66	22.56	108	35.78	38	9.78	0	0.00	
34	6/28	2	S	12		X	35	60	8	0.83	0	0.00	0	0.00		0.00	
6	6/28	2	S	12		X	30	20	10	4.17	1	0.42	1	0.42		0.00	
S 2	6/28	2	S			X	30		16	2.50	1	0.21	1	0.21	0	0.00	

**KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP**

SUBSISTENCE CATCH DATA FORM																
REPORTED CATCH																
FMN	LOC	MESH		FMS	KING		CHUM	RED		SILVER	PINK	SILVER		PINK	PINK	
#	DATE	#	S/D	TIME	≤6	>6	DEPTH	NET	KING	CPUE	CHUM	CPUE	RED	CPUE	SILVER	CPUE
6	6/28	3	D	0.33	X		45	50	6	36.36	54	327.27	9	54.55	0.00	0.00
1	6/28	3	D		X		45		6	36.36	54	327.27	9	54.55	0	0.00
8	6/28	3	D	0.33		X	35	50	21	127.27	5	30.30	4	24.24	0.00	0.00
5	6/28	3	D	0.25		X	35	50	10	80.00	5	40.00	0	0.00	0.00	0.00
S 2	6/28	3	D			X	35		31	103.64	10	35.15	4	12.12	0	0.00
3	6/28	3	S	12	X		45	10	3	2.50	3	2.50	0	0.00	0.00	0.00
S 1	6/28	3	S		X		45		3	2.50	3	2.50	0	0.00	0	0.00
2	6/28	1	D	1	X		45	50	6	12.00	81	162.00	3	6.00	0.00	0.00
4	6/28	1	D	2	X		45	50	7	7.00	101	101.00	2	2.00	0.00	0.00
5	6/28	1	D	1	X		45	50	5	10.00	77	154.00	4	8.00	0.00	0.00
S 3	6/28	1	D		X		45		18	9.67	259	139.00	9	6.33	0	0.00
12	6/30	1	D	1	X		45	50	11	22.00	68	132.00	3	6.00	0.00	0.00
1	6/30	1	D	1	X		45	50	7	14.00	89	178.00	3	6.00	0.00	0.00
S 2	6/30	1	D		X		45		18	18.00	156	155.00	8	6.00	0	0.00
3	7/2	1	D	0.08	X		45	50	0	0.00	8	200.00	0	0.00	0.00	0.00
4	7/2	1	D	0.5	X		45	50	3	12.00	52	208.00	2	8.00	0.00	0.00
5	7/2	1	D	1	X		45	50	3	6.00	105	210.00	10	20.00	0.00	0.00
8	7/2	1	D	0.75	X		45	50	15	40.00	195	620.00	28	74.67	0.00	0.00
S 4	7/2	1	D		X		45		21	14.50	360	284.50	40	25.67	0	0.00
5	7/2	2	D	0.5	X		29	35	0	0.00	3	17.14	1	5.71	0.00	0.00
35	7/2	2	D	0.17	X		45	50	0	0.00	13	152.94	2	23.53	0.00	0.00
36	7/2	2	D	2	X		45	50	0	0.00	86	85.00	55	55.00	0.00	0.00
37	7/2	2	D	1	X		45	50	0	0.00	58	112.00	27	54.00	0.00	0.00
29	7/2	2	D	1	X		45	50	8	18.00	48	96.00	7	14.00	0.00	0.00
S 5	7/2	2	D		X		45		8	3.20	205	92.62	92	30.45	0	0.00
26	7/2	3	D	1		X	35	50	22	44.00	9	18.00	0	0.00	0.00	0.00
S 1	7/2	3	D			X	35		22	44.00	9	18.00	0	0.00	0	0.00
13	7/2	3	D	0.58	X		45	50	8	20.89	65	224.14	51	175.86	0.00	0.00
S 1	7/2	3	D		X		45		8	20.89	65	224.14	51	175.86	0	0.00
2	7/2	3	S	12	X		45	10	2	1.67	5	4.17	1	0.83	0.00	0.00
S 1	7/2	3	S		X		45		2	1.67	5	4.17	1	0.83	0	0.00
2	7/3	1	D	1	X		30	50	0	0.00	47	94.00	0	0.00	0.00	0.00
6	7/3	1	D	0.5	X		45	50	1	4.00	41	164.00	0	0.00	0.00	0.00
7	7/3	1	D	0.5	X		25	50	0	0.00	77	308.00	1	4.00	0.00	0.00
S 8	7/3	1	D		X		25		1	1.33	165	188.67	1	1.33	0	0.00
3	7/4	1	D	0.17	X		45	25	10	235.29	18	378.47	0	0.00	0.00	0.00
S 1	7/4	1	D		X		45		10	235.29	16	376.47	0	0.00	0	0.00
10	7/3	2	D	1	X		45	50	0	0.00	140	280.00	75	150.00	0.00	0.00
7	7/3	2	D	1	X		45	50	0	0.00	100	200.00	90	180.00	0.00	0.00
30	7/3	2	D	1	X		45	50	0	0.00	100	200.00	95	190.00	0.00	0.00
29	7/3	2	D	2	X		45	50	0	0.00	150	150.00	25	25.00	0.00	0.00
21	7/3	2	D	0.5	X		45	50	0	0.00	45	180.00	10	40.00	0.00	0.00
26	7/3	2	D	1	X		45	50	0	0.00	83	166.00	20	40.00	0.00	0.00
S 6	7/3	2	D		X		45		0	0.00	618	196.00	315	104.17	0	0.00
5	7/3	2	S	11		X	29	35	2	0.52	2	0.52	0	0.00	0.00	0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM																
REPORTED CATCH																
FMN #	DATE	LOC #	S/D	TIME	<=6	>6	MESH DPTH	FMS NET	KING	KING CPUE	CHUM	CHUM CPUE	RED	RED CPUE	SILVER	PINK
1	7/3	2	S			X	29		2	0.52	2	0.52	0	0.00	0	0.00
1	7/4	3	D	0.33	X		45	50	6	38.36	70	424.24	15	90.91		0.00
6	7/4	3	D	0.33	X		35	50	5	30.30	90	545.45	28	169.70		0.00
S 2	7/4	3	D		X		35		11	33.33	160	484.85	43	130.30	0	0.00
3	7/4	3	S	12	X		45	10	2	1.67	12	10.00	4	3.33		0.00
10	7/4	3	S	12	X		45	15	1	0.58	71	39.44	20	11.11		0.00
8	7/4	3	S	8	X		45	15	3	2.50	41	34.17	14	11.67		0.00
S 3	7/4	3	S		X		45		6	1.57	124	27.87	38	8.70	0	0.00
3	7/6	1	D	0.75	X		45	50	2	5.33	17	45.33		0.00		0.00
S 1	7/6	1	D		X		45		2	5.33	17	45.33	0	0.00	0	0.00
5	7/7	1	D	1	X		45	50	4	8.00	97	194.00		0.00		0.00
4	7/7	1	D	1	X		45	50	3	6.00	105	210.00		0.00		0.00
S 2	7/7	1	D		X		45		7	7.00	202	202.00	0	0.00	0	0.00
11	7/6	2	D	0.25	X		45	50	0	0.00	3	24.00	0	0.00		0.00
29	7/6	2	D	0.25	X		45	50	3	24.00	40	320.00	10	80.00		0.00
S 2	7/6	2	D		X		45		3	12.00	43	172.00	10	40.00	0	0.00
5	7/6	2	S	12	X		26	40	0	0.00	4	0.83	0	0.00		0.00
S 1	7/6	2	S		X		26		0	0.00	4	0.83	0	0.00	0	0.00
1	7/6	3	D	0.5	X		45	50	2	8.00	35	140.00	4	16.00		0.00
3	7/6	3	D	0.25	X		45	50	1	8.00	13	104.00	5	40.00		0.00
6	7/6	3	D	0.33	X		45	50	2	12.12	20	121.21	2	12.12		0.00
11	7/6	3	D	0.5	X		45	50	1	4.00	2	8.00	6	24.00		0.00
12	7/6	3	D	0.25	X		45	50	4	32.00	31	248.00	3	24.00		0.00
S 5	7/8	3	D		X		45		10	12.82	101	124.24	20	23.22	0	0.00
4	7/10	1	D	1	X		45	50	1	2.00	71	142.00	0	0.00		0.00
14	7/10	1	D	1	X		45	50	4	8.00	47	94.00	2	4.00		0.00
17	7/10	1	D	0.67	X		45	50	5	14.93	38	113.43	0	0.00		0.00
S 3	7/10	1	D		X		45		10	8.31	156	116.48	2	1.33	0	0.00
11	7/10	2	D	1	X		45	50	0	0.00	60	120.00	0	0.00		0.00
15	7/10	2	D	1.5	X		45	50	1	1.33	80	106.67	0	0.00		0.00
5	7/10	2	D	1	X		45	50	0	0.00	19	38.00	3	6.00		0.00
16	7/10	2	D	2	X		45	50	0	0.00	70	70.00	30	30.00		0.00
S 4	7/10	2	D		X		45		1	0.33	229	83.67	33	9.00	0	0.00
12	7/10	3	D	0.5	X		45	50	2	8.00	41	164.00	3	12.00		0.00
9	7/10	3	D	0.33	X		45	50	4	24.24	52	315.15	8	48.48		0.00
S 2	7/10	3	D		X		45		6	16.12	93	239.58	11	30.24	0	0.00
17	7/11	3	D	0.25	X		45	50	2	16.00	185	1480.00	18	144.00		0.00
21	7/11	3	D	1.5	X		45	50	1	1.33	120	160.00	9	12.00		0.00
S 2	7/11	3	D		X		45		3	8.67	305	820.00	27	78.00	0	0.00
6	7/12	1	D	0.5	X		45	50	0	0.00	89	356.00	1	4.00		0.00
12	7/12	1	D	0.75	X		45	50	3	8.00	138	368.00	0	0.00		0.00
2	7/12	1	D		X		45		3	4.00	227	362.00	1	2.00	0	0.00
8	7/12	3	S	12	X		45	15	0	0.00	28	15.56	8	3.33		0.00
S 1	7/12	3	S		X		45		0	0.00	28	15.56	8	3.33	0	0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM

REPORTED CATCH

FMN	LOC	SUBSTRATE DATA					MESH FMS		KING		CHUM		RED		SILVER		PINK	
#	DATE	#	S/D	TIME	<8	>8	DPTH	NET	KING	CPUE	CHUM	CPUE	RED	CPUE	SILVER	CPUE	PINK	CPUE
0	7/12	3	D	0.5	X		45	50	1	4.00	32	128.00	9	36.00		0.00		0.00
1	7/12	3	D		X		45		1	4.00	32	128.00	9	36.00	0	0.00	0	0.00
16	7/15	3	D	0.5	X		35	50	2	8.00	45	180.00	7	28.00		0.00		0.00
8	7/15	3	D	0.33	X		45	50	1	6.08	29	175.76	6	36.36		0.00		0.00
S 2	7/15	3	D		X		45		3	7.03	74	177.88	13	32.18	0	0.00	0	0.00
29	7/16	2	D	1.5	X		45	50	2	2.67	36	48.00	1	1.33	0	0.00	0	0.00
13	7/16	2	D	1	X		45	50	0	0.00	25	50.00	0	0.00	0	0.00	0	0.00
5	7/16	2	D	1	X		45	50	0	0.00	8	16.00	0	0.00	0	0.00	0	0.00
S 3	7/16	2	D		X		45		2	0.89	69	38.00	1	0.44	0	0.00	0	0.00
34	7/16	2	S	10	X		29	40	0	0.00	21	5.25	0	0.00	1	0.25	2	0.50
S 1	7/16	2	S		X		29		0	0.00	21	5.25	0	0.00	1	0.25	2	0.50
19	7/17	2	D	1	X		45	50		0.00	25	50.00		0.00		0.00		0.00
S 1	7/17	2	D		X		45		0	0.00	25	50.00	0	0.00	0	0.00	0	0.00
4	7/17	1	D	0.5	X		45	50	0	0.00	55	220.00	4	16.00	1	4.00		0.00
7	7/17	1	D	0.25	X		45	50	0	0.00	6	48.00	0	0.00	0	0.00		0.00
12	7/17	1	D	1	X		45	50	1	2.00	29	58.00	0	0.00	0	0.00		0.00
17	7/17	1	D	1.5	X		45	50	0	0.00	96	128.00	3	4.00	1	1.33		0.00
S 4	7/17	1	D		X		45		1	0.50	186	113.50	7	5.00	2	1.33	0	0.00
6	7/16	3	D	1	X		45	50	1	2.00	21	42.00	4	8.00	0	0.00		0.00
10	7/16	3	D	0.5	X		45	50	2	8.00	13	52.00	2	8.00	0	0.00		0.00
2	7/16	3	D		X		45		3	5.00	34	47.00	6	8.00	0	0.00	0	0.00
26	7/17	3	D	0.5	X		45	50	2	8.00	22	88.00	4	16.00	1	4.00		0.00
13	7/17	3	D	0.5	X		45	50	1	4.00	21	84.00	5	20.00	0	0.00		0.00
S 2	7/17	3	D		X		45		3	6.00	43	86.00	9	18.00	1	2.00	0	0.00
29	7/18	2	D	1.5	X		45	50		0.00	11	14.67		0.00		0.00	1	1.33
5	7/18	2	D	1	X		29	40		0.00	2	5.00		0.00		0.00	0	0.00
S 2	7/18	2	D		X		29		0	0.00	13	9.83	0	0.00	0	0.00	1	0.67
4	7/18	3	D	0.5	X		45	50		0.00	20	80.00	4	16.00		0.00		0.00
5	7/18	3	D	0.5	X		45	50		0.00	14	56.00	1	4.00		0.00		0.00
S 2	7/18	3	D		X		45		0	0.00	34	68.00	5	10.00	0	0.00	0	0.00
5	7/18	4	S	24	X		30	30	1	0.14	7	0.97	1	0.14		0.00		0.00
S 1	7/18	4	S		X		30		1	0.14	7	0.97	1	0.14	0	0.00	0	0.00
5	7/20	2	S	12	X		29	60		0.00	3	0.42	1	0.14	1	0.14		0.00
14	7/20	2	S	12	X		29	60		0.00	2	0.28	0	0.00	0	0.00		0.00
5	7/20	2	S	5	X		29	60		0.00	1	0.33	0	0.00	1	0.33		0.00
S 3	7/20	2	S		X		29		0	0.00	6	0.34	1	0.06	2	0.16	0	0.00
6	7/19	3	D	0.5	X		35	50	1	4.00	12	48.00	2	8.00	1	4.00		0.00
S 1	7/19	3	D		X		35		1	4.00	12	48.00	2	8.00	1	4.00	0	0.00
5	7/20	3	D	0.5	X		45	50		0.00	25	100.00		0.00		0.00		0.00
0	7/20	3	D	0.33	X		45	50		0.00	21	127.27		0.00		0.00		0.00
5	7/20	3	D	0.5	X		45	50		0.00	29	116.00		0.00		0.00		0.00
S 3	7/20	3	D		X		45		0	0.00	75	114.42	0	0.00	0	0.00	0	0.00

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM										REPORTED CATCH							
FMN	LOC	S/D		TIME	<5	>5	MESH	FMS	KING	KING	CHUM	CHUM	RED	RED	SILVER	SILVER	PINK
#	DATE	#					DPH	NET		CPUE		CPUE		CPUE		CPUE	CPUE
7	7/23	1	D	0.5	X		45	50	1	4.00	8	24.00		0.00		0.00	0.00
1	7/23	1	D		X		45		1	4.00	8	24.00	0	0.00	0	0.00	0
29	7/23	2	D	1.5	X		45	60		0.00	15	20.00		0.00	1	1.33	0.00
S 1	7/23	2	D		X		45		0	0.00	15	20.00	0	0.00	1	1.33	0
5	7/23	2	S	12	X		29	60		0.00	1	0.14		0.00	0	0.00	0.00
11	7/23	2	S	12	X		29	60		0.00	3	0.42		0.00	1	0.14	0.00
S 2	7/23	2	S		X		29		0	0.00	4	0.28	0	0.00	1	0.07	0
26	7/24	2	S	12	X		30	60		0.00	2	0.28	0	0.00	1	0.14	0.00
5	7/24	2	S	12	X		29	60		0.00	1	0.14	1	0.14	0	0.00	0.00
11	7/24	2	S	12	X		29	60		0.00	3	0.42	0	0.00	2	0.28	0.00
S 3	7/24	2	S		X		29		0	0.00	6	0.28	1	0.05	3	0.14	0
26	7/23	3	D	0.5	X		45	50		0.00	10	40.00		0.00	5	20.00	0.00
S 1	7/23	3	D		X		45		0	0.00	10	40.00	0	0.00	5	20.00	0
6	7/24	3	D	0.5	X		45	50		0.00	11	44.00		0.00	4	18.00	0.00
S 1	7/24	3	D		X		45		0	0.00	11	44.00	0	0.00	4	18.00	0
3	7/25	1	D	0.75	X		45	50	2	5.33	7	18.67		0.00	6	16.00	0.00
S 1	7/25	1	D		X		45		2	5.33	7	18.67	0	0.00	6	16.00	0
15	7/25	2	S	12	X		29	40		0.00	0	0.00	0	0.00	7	1.46	0.00
6	7/25	2	S	12	X		29	50		0.00	1	0.17	3	0.50	0	0.00	0.00
28	7/25	2	S	12	X		30	60		0.00	1	0.14	0	0.00	0	0.00	0.00
3	7/25	2	S		X		30		0	0.00	2	0.10	3	0.17	7	0.49	0
7	7/26	1	D	0.12	X		45	50		0.00	1	16.67		0.00	2	33.33	0.00
S 1	7/26	1	D		X		45		0	0.00	1	16.67	0	0.00	2	33.33	0
11	7/26	2	S	12	X		29	60		0.00	2	0.28		0.00	8	1.11	0.00
5	7/26	2	S	12	X		29	80		0.00	3	0.42		0.00	2	0.28	0.00
S 2	7/26	2	S		X		29		0	0.00	5	0.35	0	0.00	10	0.69	0
3	7/25	4	D	0.5	X		30	30		0.00	14	93.33		0.00		0.00	0.00
S 1	7/25	4	D		X		30		0	0.00	14	93.33	0	0.00	0	0.00	0
7	7/28	1	D	0.25	X		45	50		0.00	7	56.00		0.00	3	24.00	0.00
S 1	7/28	1	D		X		45		0	0.00	7	56.00	0	0.00	3	24.00	0
6	7/27	2	S	12	X		29	60		0.00	2	0.28		0.00	3	0.42	9
S 1	7/27	2	S		X		29		0	0.00	2	0.28	0	0.00	3	0.42	9
4	7/26	3	D	0.5	X		45	50		0.00	9	36.00		0.00	12	48.00	0.00
5	7/26	3	D	0.5	X		45	50		0.00	10	40.00		0.00	15	60.00	0.00
S 2	7/26	3	D		X		45		0	0.00	19	38.00	0	0.00	27	54.00	0
6	7/27	3	D	0.5	X		35	50		0.00	4	16.00		0.00	18	72.00	0.00
1	7/27	3	D		X		35		0	0.00	4	16.00	0	0.00	18	72.00	0
5	7/30	1	D	0.18	X		45	60		0.00	7	87.50		0.00	13	162.50	0.00
7	7/30	1	D	0.16	X		45	25		0.00	2	50.00		0.00	5	125.00	0.00
S 2	7/30	1	D		X		45		0	0.00	9	68.75	0	0.00	18	143.75	0

KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP

SUBSISTENCE CATCH DATA FORM

REPORTED CATCH

FMN #	DATE	LOC #	S/D	TIME	←8	>6	MESH DPHT	FMS NET	KING KING	CPUE	CHUM CHUM	CPUE	RED RED	CPUE	SILVER SILVER	CPUE	PINK PINK	CPUE
10	7/30	3	D	0.6	X		35	50		0.00	10	40.00		0.00	8	32.00		0.00
7	7/30	3	D	0.5	X		45	50		0.00	7	28.00		0.00	12	48.00		0.00
S 2	7/30	3	D		X		45		0	0.00	17	34.00	0	0.00	20	40.00	0	0.00
3	7/29	4	D	0.5	X		30	30		0.00	11	73.33		0.00		0.00		0.00
S 1	7/29	4	D		X		30		0	0.00	11	73.33	0	0.00	0	0.00	0	0.00
3	7/30	4	D	1	X		30	30		0.00	7	23.33		0.00	1	3.33		0.00
S 1	7/30	4	D		X		30		0	0.00	7	23.33	0	0.00	1	3.33	0	0.00
6	7/30	2	S	12	X		29	60		0.00		0.00		0.00	1	0.14	9	1.25
S 1	7/30	2	S		X		29		0	0.00	0	0.00	0	0.00	1	0.14	9	1.25
5	7/31	2	S	12	X		29	60		0.00		0.00		0.00	1	0.14	2	0.28
S 1	7/31	2	S		X		29		0	0.00	0	0.00	0	0.00	1	0.14	2	0.28
9	7/31	3	D	0.5	X		45	50		0.00	9	36.00		0.00	31	124.00		0.00
S 1	7/31	3	D		X		45		0	0.00	9	36.00	0	0.00	31	124.00	0	0.00
3	8/2	1	D	0.16	X		45	25		0.00		0.00		0.00	2	50.00		0.00
S 1	8/2	1	D		X		45		0	0.00	0	0.00	0	0.00	2	50.00	0	0.00
10	8/2	2	D	1	X		30	50		0.00		0.00		0.00	21	42.00		0.00
S 1	8/2	2	D		X		30		0	0.00	0	0.00	0	0.00	21	42.00	0	0.00
5	8/2	2	S	12	X		29	60		0.00		0.00		0.00	4	0.56	5	0.69
3	8/2	2	S		X		29		0	0.00	0	0.00	0	0.00	4	0.56	5	0.69
3	8/4	1	D	0.16	X		45	25		0.00		0.00		0.00	2	50.00		0.00
S 1	8/4	1	D		X		45		0	0.00	0	0.00	0	0.00	2	50.00	0	0.00
5	8/3	2	S	12	X		29	60		0.00		0.00		0.00	3	0.42	3	0.42
S 1	8/3	2	S		X		29		0	0.00	0	0.00	0	0.00	3	0.42	3	0.42
11	8/3	2	D	0.25	X		29	80		0.00		0.00		0.00	4	26.67	0	0.00
S 1	8/3	2	D		X		29		0	0.00	0	0.00	0	0.00	4	26.67	0	0.00
5	8/2	3	D	0.25	X		45	50		0.00	1	8.00		0.00	19	152.00		0.00
6	8/2	3	D	0.5	X		35	50		0.00	3	12.00		0.00	40	160.00		0.00
S 2	8/2	3	D		X		35		0	0.00	4	10.00	0	0.00	59	156.00	0	0.00
11	8/3	3	D	0.5	X		45	50		0.00	1	4.00		0.00	19	76.00		0.00
21	8/3	3	D	0.75	X		45	50		0.00	3	8.00		0.00	40	106.67		0.00
S 2	8/3	3	D		X		45		0	0.00	4	6.00	0	0.00	59	91.33	0	0.00
2	8/7	1	D	0.6	X		45	50		0.00		0.00		0.00	30	120.00	2	8.00
S 1	8/7	1	D		X		45		0	0.00	0	0.00	0	0.00	30	120.00	2	8.00
26	8/7	2	S	12	X		40	60		0.00	0	0.00		0.00	14	1.94		0.00
5	8/7	2	S	12	X		29	60		0.00	2	0.28		0.00	13	1.81	3	0.42
2	8/7	2	S		X		29		0	0.00	2	0.14	0	0.00	27	1.88	3	0.21
11	8/7	3	D	0.59	X		45	50		0.00	2	6.78		0.00	24	81.38		0.00
7	8/7	3	D	0.5	X		45	50		0.00	3	12.00		0.00	21	84.00		0.00

**KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP**

**SUBSISTENCE CATCH DATA FORM**

**REPORTED CATCH**

FMN	LOC		MESH				FMS	KING		CHUM	RED	SILVER	PINK					
#	DATE	#	S/D	TIME	<6	>6	DEPTH	NET	CPUE	CHUM	CPUE	RED	CPUE	SILVER	CPUE	PINK	CPUE	
18	8/7	3	D	0.33	X		45	50	0.00	1	6.06		0.00	16	96.97		0.00	
3	8/7	3	D		X		45		0	0.00	6	8.28	0	0.00	61	87.44	0	0.00
1	8/5	4	D	1	X		30	30	0.00	0	0.00		0.00	5	16.67		0.00	
3	8/5	4	D	0.5	X		30	30	0.00	2	13.33		0.00	1	6.67		0.00	
S 2	8/5	4	D		X		30		0	0.00	2	8.67	0	0.00	6	11.67	0	0.00
3	8/6	4	D	0.5	X		30	30	0.00	1	6.67		0.00	2	13.33		0.00	
S 1	8/6	4	D		X		30		0	0.00	1	6.67	0	0.00	2	13.33	0	0.00
3	8/7	4	S	24	X		30	30	0.00	4	0.56		0.00	6	0.83		0.00	
S 1	8/7	4	S		X		30		0	0.00	4	0.58	0	0.00	6	0.83	0	0.00
5	8/8	2	D	0.5	X		29	80	0.00	1	3.33		0.00	5	16.67		0.00	
10	8/8	2	D	2	X		30	50	0.00	10	10.00		0.00	246	246.00		0.00	
7	8/8	2	D	1.5	X		30	30	0.00	0	0.00		0.00	18	40.00		0.00	
S 3	8/8	2	D		X		30		0	0.00	11	4.44	0	0.00	269	100.89	0	0.00
6	8/8	3	D	0.33	X		45	50	0.00	4	24.24		0.00	71	430.30		0.00	
8	8/8	3	D	0.6	X		45	50	0.00	6	24.00		0.00	48	192.00		0.00	
S 2	8/8	3	D		X		45		0	0.00	10	24.12	0	0.00	119	311.15	0	0.00
7	8/8	1	D	0.6	X		45	50	0.00	6	24.00	1	4.00	60	240.00	2	8.00	
S 1	8/8	1	D		X		45		0	0.00	6	24.00	1	4.00	60	240.00	2	8.00
7	8/9	1	D	0.33	X		45	50	0.00		0.00		0.00	10	60.61		0.00	
1	8/9	1	D		X		45		0	0.00	0	0.00	0	0.00	10	60.61	0	0.00
19	8/9	2	D	1.5	X		30	50	0.00		0.00		0.00	78	104.00		0.00	
S 1	8/9	2	D		X		30		0	0.00	0	0.00	0	0.00	78	104.00	0	0.00
26	8/9	3	D	0.25	X		45	50	0.00		0.00		0.00	36	288.00		0.00	
10	8/9	3	D	0.25	X		45	50	0.00		0.00		0.00	42	336.00		0.00	
S 2	8/9	3	D		X		45		0	0.00	0	0.00	0	0.00	78	312.00	0	0.00
3	8/8	4	S	24	X		30	30	0.00	4	0.56		0.00	3	0.42		0.00	
S 1	8/8	4	S		X		30		0	0.00	4	0.58	0	0.00	3	0.42	0	0.00
3	8/9	4	S	24	X		30	30	0.00	5	0.69		0.00	6	0.83		0.00	
S 1	8/9	4	S		X		30		0	0.00	5	0.69	0	0.00	6	0.83	0	0.00
3	8/10	4	S	24	X		30	30	0.00	7	0.97		0.00	5	0.89		0.00	
S 1	8/10	4	S		X		30		0	0.00	7	0.97	0	0.00	5	0.69	0	0.00
4	8/14	1	D	0.75	X		45	50	0.00		0.00		0.00	147	392.00		0.00	
5	8/14	1	D	0.17	X		45	50	0.00		0.00		0.00	30	352.94		0.00	
7	8/14	1	D	0.5	X		45	25	0.00		0.00		0.00	50	400.00		0.00	
S 3	8/14	1	D		X		45		0	0.00	0	0.00	0	0.00	227	381.65	0	0.00
5	8/14	2	D	0.17	X		29	40	0.00		0.00		0.00	3	44.12		0.00	
1	8/14	2	D		X		29		0	0.00	0	0.00	0	0.00	3	44.12	0	0.00
4	8/14	3	D	0.5	X		45	50	0.00	4	16.00		0.00	51	204.00		0.00	
13	8/14	3	D	0.5	X		35	50	0.00	0	0.00		0.00	41	164.00		0.00	
S 2	8/14	3	D		X		35		0	0.00	4	8.00	0	0.00	92	184.00	0	0.00



KUSKOKWIM FISHERMEN'S COOPERATIVE  
KUSKOKWIM RIVER SALMON MANAGEMENT WORK GROUP  
SUBSISTENCE CATCH DATA FORM

FMSH #	DATE	LOC		S/D	TIME	<6	>6	MESH		FMS NET	KING CPUE	CHUM CPUE	RED CPUE	RED CPUE	SILVER CPUE	SILVER CPUE	PINK CPUE	PINK CPUE	
		DPH	NET																
3	8/13	4	S	24	X			30	30		0.00	9	1.25	0.00	6	0.83		0.00	
2	8/13	4	S	24	X			30	40		0.00	4	0.42	0.00	6	0.63		0.00	
S 2	8/13	4	S		X			30		0	0.00	13	0.83	0	0.00	12	0.73	0	0.00
10	8/15	2	D	0.25	X			30	30		0.00		0.00	0.00	10	133.33		0.00	
S 1	8/15	2	D		X			30		0	0.00	0	0.00	0	0.00	10	133.33	0	0.00
8	8/15	3	D	0.5	X			45	50		0.00	2	8.00	0.00	85	340.00		0.00	
S 1	8/15	3	D		X			45		0	0.00	2	8.00	0	0.00	85	340.00	0	0.00
5	8/21	2	D	0.5	X			29	40		0.00		0.00	0.00	12	60.00		0.00	
S 1	8/21	2	D		X			29		0	0.00	0	0.00	0	0.00	12	60.00	0	0.00
2	8/21	3	D	0.5	X			45	50		0.00		0.00	0.00	38	152.00		0.00	
10	8/21	3	D	0.5	X			45	50		0.00		0.00	0.00	50	200.00		0.00	
S 2	8/21	3	D		X			45		0	0.00	0	0.00	0	0.00	88	176.00	0	0.00
7	8/21	3	S	24	X			29	12		0.00		0.00	0.00	13	4.51		0.00	
S 1	8/21	3	S		X			29		0	0.00	0	0.00	0	0.00	13	4.51	0	0.00
21	8/22	2	D	0.25	X			35	50		0.00		0.00	0.00	48	384.00		0.00	
S 1	8/22	2	D		X			35		0	0.00	0	0.00	0	0.00	48	384.00	0	0.00
7	8/22	3	S	24	X			29	12		0.00		0.00	0.00	14	4.86		0.00	
1	8/22	3	S		X			29		0	0.00	0	0.00	0	0.00	14	4.86	0	0.00
4	8/23	3	D	0.5	X			45	50		0.00		0.00	0.00	17	68.00		0.00	
10	8/23	3	D	0.41	X			45	50		0.00		0.00	0.00	21	102.44		0.00	
S 2	8/23	3	D		X			45		0	0.00	0	0.00	0	0.00	38	85.22	0	0.00
10	8/26	2	D	1	X			30	50		0.00		0.00	0.00	2	4.00		0.00	
S 1	8/26	2	D		X			30		0	0.00	0	0.00	0	0.00	2	4.00	0	0.00
6	8/24	3	D	0.5	X			45	50		0.00		0.00	0.00	21	84.00		0.00	
8	8/24	3	D	0.5	X			45	50		0.00		0.00	0.00	14	56.00		0.00	
20	8/24	3	D	0.5	X			45	50		0.00		0.00	0.00	12	48.00		0.00	
S 3	8/24	3	D		X			45		0	0.00	0	0.00	0	0.00	47	62.67	0	0.00
10	8/28	1	D	0.75	X			35	50		0.00		0.00	0.00	77	205.33		0.00	
S 1	8/28	1	D		X			35		0	0.00	0	0.00	0	0.00	77	205.33	0	0.00
3	8/28	3	D	0.75	X			45	50		0.00		0.00	0.00	8	21.33		0.00	
21	8/28	3	D	0.5	X			45	50		0.00		0.00	0.00	4	16.00		0.00	
S 2	8/28	3	D		X			45		0	0.00	0	0.00	0	0.00	12	18.67	0	0.00
6	8/29	3	D	0.5	X			45	50		0.00		0.00	0.00	3	12.00		0.00	
S 1	8/29	3	D		X			45		0	0.00	0	0.00	0	0.00	3	12.00	0	0.00
20	8/29	1	D	0.17	X			45	50		0.00		0.00	0.00	4	47.06		0.00	
3	8/29	1	D	0.09	X			45	50		0.00		0.00	0.00	4	88.89		0.00	
4	8/29	1	D	0.5	X			45	50		0.00		0.00	0.00	32	128.00		0.00	
11	8/29	1	D	0.75	X			45	50		0.00		0.00	0.00	66	170.98		0.00	
19	8/29	1	D	0.84	X			45	50		0.00		0.00	0.00	81	145.24		0.00	
S 5	8/29	1	D		X			45		0	0.00	0	0.00	0	0.00	167	116.03	0	0.00

## 1990 Subsistence Survey

Akiachak

Number	Name	Address	Contact Number
1	Eddie Noatak		
2	Phillip Peter	24 John Wpie	
3	Roy George		
4	Moses Frederick		
5	Mike Williams		
6	Dan Ekamrak		
7	Moses Paine		
8	David George		
9	George Pasitnak		
10	Sam Ekamrak		
11	Oscar Sam		
12	Sam Moses		
13	Jesse George		
14	Kenneth Peter		
15	Fred George		
16	Robert Snyder		
17	Eddie Phillip		
18	Lincoln Peter		
19	Joe Noah		
20	Fritz George		
21	Robert nose		
22	Fred Nick		
23.	Marvin Evan		

## 1990 Subsistence Survey

Chuathbaluk

Number	Name	Address	Contact Number
1	Paul Nesbitt		
2	Nick Phillip		
3	David Simeon		
4	Lucy Simeon		
5	Sinka Zaukar		
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## 1990 Subsistence Survey

Tuntutuliak

Number	Name	Address	Contact Number
1	Peter Pavilla		
2	Jack Stewart		
3	Phillip Charlie		
4	John Enoch		
5	Paul Andrew		
6	George McCarr		
7	Thomas Charlie		
8	Anna Andrew		
9	Joseph Lupie		
10	Willie Andrew		
11	John Evan		
12	James Jimmy		
13	James Charles		
14	Ron Simon		
15	Elena Andrew Daniel		
16	Peter Miller		
17	Petu Joseph		
18	Elena Evon		
19	Gabe Olick		
20			
21			
22			

## Napakiak

Number	Name	Address	Contact Number
1	Billy McCann		
2	Gabriel Stone		
3	Joseph Evan	29. Zachariah Chaliab	
4	George Black	30. Tenselu Enoch	
5	Paul Parka, Sr.	31. Joseph Alexie	
6	Calvin Coolidge	32. Ralph Nelson	
7	Henry Parks	33. Oscar Nick	
8	Zack Chris	34. Luke Jacob	
9	James Berlin	35. Robert Dyagalua	
10	Alexie Berlin	36. James Michael	
11	Fritz Andrew	37. Andrew Michael	
12	Carl Motgin		
13	Oscar Willie		
14	Willie Kernak		
15	Tony Larson		
16	Adam Miller		
17	Fred Evan		
18	Alexie Temple		
19	James Evan		
20	Frank Temple		
21	Jacobs Black		
22	Don Nelson		
23	Al Kernak		
24	John Nokowallua		
25	Allen Jimmy		
26	Adam Nelson		
27	John M. Andrew		
28	James Lewis		